

13-05-96 920AM

Bob Cooper's

MAY 15 1996

# SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific Ocean Region

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and the CDE-2000  
Decoder**

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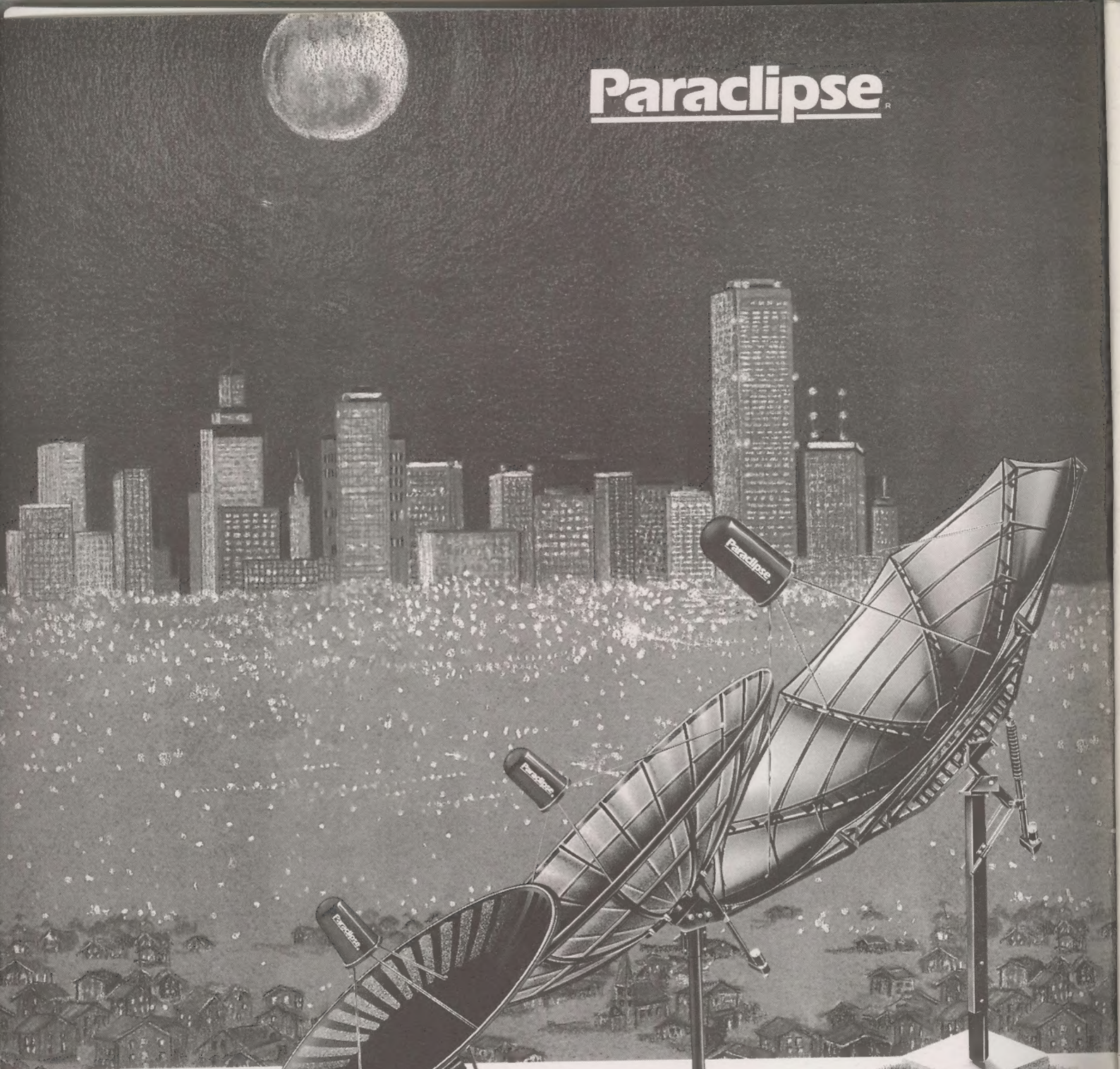
**Vol. 2 ♦ No. 21**

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# SatFACTS

## MONTHLY

SatFACTS Monthly is published 12 times each year (on or about 15th of each month) by Far North Cablevision, Ltd. This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install the appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of the messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

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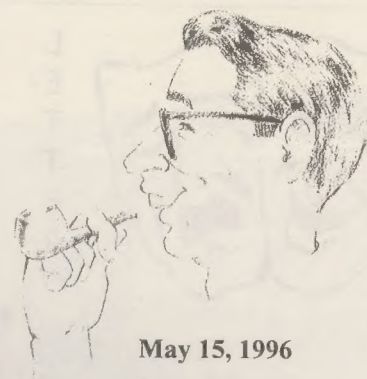
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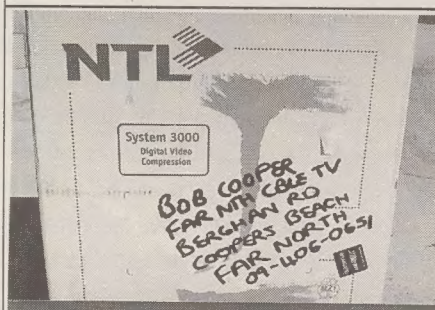
## COOP'S COMMENT

Now the first trickle of DVB Compliant digital receivers are starting to flow into the Pacific and Asia and I have had the opportunity to trial one or two, some impressions.

My first Pace DVR-200 consumer level DVB receiver has yet to arrive, but I certainly hope it has been thought out better than the NTL 3000 we are now using for our Far North Cable TV service on Deutsche Welle. The NTL has enough "secret passwords" and "security blocks" to be the envy of the CIA. Even changing from Deutsche Welle to RTVE or TV5, all on the same transponder and in the same programme "river," requires you re-access the receiver through a



May 15, 1996



number of security checks. I don't see many consumers putting up with this very long!

If Japanese cable operators using this same NTL 3000 receiver to receive the Star TV Japanese feed from As2 are paying US\$5,000 for this unit (they are), I believe NTL ought to be providing something very special in the way of cable friendly design. Quite the contrary, their only justification for this level of pricing seems to be that they have the units to deliver and nobody else does. I figure this receiver should sell for under US\$2,000 and by this time next month I will

have my first Scientific Atlanta D9223. You can be sure I will be comparing this US\$1,295 receiver against the US\$5,000 NTL 3000 looking for some justification of the higher price tag. Yes, I will report my comparisons to you.

What immediately strikes me is that by the end of this year I will, for my cable TV system, be purchasing 10 DVB digital receivers for the new UIH service and 3 more for the new Television New Zealand service. You can be sure I will be looking for the least expensive DVB receivers I can find. I hope the new Pace DVR-200 does the job, I even hope somebody will come along with a less expensive model. Soon. Before I need to buy 13 at one crack.

**Moreover, I have a design suggestion.** There are two distinct functions to a DVB Compliant receiver: *Function one* - to receive the signal in the 950-1450 (+) MHz range, process and demodulate it. And *function two* - to extract one specified programme stream out of a river of programming material; such as RTVE within the European Bouquet. For cable, SMATV and upmarket DTH what the world needs is a receiver that does function one with trays or slots to plug in up to perhaps 10 separate modules to do function 2. A very simple concept - a basic receiver that can deliver as many (virtual) programme channels as a transponder might hold. I'd pay more for such a basic receiver, but expect to pay much less for the modules or trays that extract the additional programme streams to baseband video and audio. The digital video processing modules or trays (function 2, here) should be a piece of cake; the computer world is now awash in digital-in, NTSC (or PAL) out boards. As the art now stands, for 13 new digital channels for my cable headend I will be forced to spend upwards of US\$10,500. I don't need 13 new, complete, digital receivers; I need two, one that processes 10 channels and the other processing 3 channels. For under US\$5,000 total. Is anyone burning the midnight oil on this challenge?

## In Volume 2 ♦ Number 21

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## -ON THE COVER-

Ride 'em cowboy! Pacific Satellite's Bryon Evans rides a 3.7m dish up to an elevated heavy duty 127mm mounting pipe for C1 reception at Far North Cable TV. Foreground, right: Visual Reality's Ron Maurer rides check on the wayward dish.





## LETTERS

### Korean?

"I have read the Magazine SatFACTS which makes me quite interested in having a satellite dish. I wonder can I watch Korean TV channels if I install an antenna at my home? I have enquired at a satellite shop in Auckland and there is no clear answer. They suggest I send to you a fax."

Byeonsang Oh, Auckland, NZ

We have Tamil and Spanish. Italian and Hindi. Bahasa and Mandarin - alas not much Korean. However, a 3m dish with circular polarity feed tuned to I174 or I177E would catch up to several hours per day of KBS (Korean Broadcasting System) feeds on Intelsat. These "wild card" (non-scheduled) feeds are a part of the daily service routine from Intelsat.

### L Band LNBs?

I am very interested to subscribe to SatFACTS Magazine. Can you help me locate a source for L-band LNBs?

Wohler Olivier, Papeete-Tahiti

LNBs are routinely available for the various Ku band frequencies (10.7 to 12.75 GHz), C-band (3.7 to 4.2 GHz, with newer models covering 3.4 to 4.2 GHz), and if you look in the right places, "S" band (2.5-2.7 GHz). We know of no L-band (1.4-1.7 GHz) for radio or television reception and with the exception of the (late) 1996 - 1997 scheduled launch of Indostar (see p.7, here) can think of no use for them except for weather satellite reception in the 1.6 GHz region.

### Adios Solomon Islands?

I received a fax from Semi Seth at Star TV advising, "We regret to inform you that currently The Solomon Islands do not fall within our footprint." What's the story?

Jim Ruhe, Honiara, Solomon

Officially, The Solomons were outside of B2P coverage; with C1's strange coverage, it got worse.

Tough luck!

## PROGRAMMER PROGRAMMING PROMOTION

## UPDATE

MAY 15, 1996

ABN use of C1 hot horizontal transponder (3,920 MHz/IF1230) abruptly ended May 1 as they moved to horizontal 4,040/1110IF. ABN has been uncomfortable with its all-Asia/all-Pacific free-to-air coverage on C1 from March launch, promised New Zealand programme rep firm Telsat Communications it would "fix the free to air situation" which was conflicting with ABN sales through PAS-2 where they are in MPEG format. That they continue to be FTA, but not in South Pacific, is a strange business plan to comprehend since South Pacific coverage at best reached 20 million potential people while FTA portion into Asia reaches in excess of 1 billion; even on C1 4,040. Philippines GMA replaced ABN at 3,920 which will benefit satellite system sellers in Australia who have had considerable interest in GMA from ex-pat Filipinos there. GMA had no advance notice they were moving; only found out evening of April 30th!

The Value Channel (TVC) is new Australian bred "all shopping, all the time" merchandise promotion channel scheduled for FTA analogue NTSC on PAS-2 around mid-June, FTA analogue PAL on As2 by mid to late July. Cable operators should contact George Frame at (fax) 61-2-513-8103. Home shopping via the telly is on its way to the Pacific!

Measat (Malaysia national satellite at 91.5E) is to be totally digitally compressed, encrypted and the only "approved" satellite for viewing by Malaysian residents. Line-up of programmers is likely to include several "western" services (Discovery et al) at rates near US\$30 per month. June is target month for service start.

CNBC announcement it will end analogue FTA and convert to MPEG-2 on PAS-2 using Iredito conditional access and Pace receivers is not unexpected. Year ago, when CNBC was announced, it said it would use Philips MPEG-2 format; by December this had changed to utilising Pace receivers. CNBC wanted to go MPEG-2 months ago but could not obtain Pace receivers because of demands by Galaxy and South Africa for receivers. The good news is anyone with a DVB Compliant MPEG receiver after switch will still be able to receive CNBC; CA (conditional access) will be month or more away. Details of switch are not known, even at NBC!

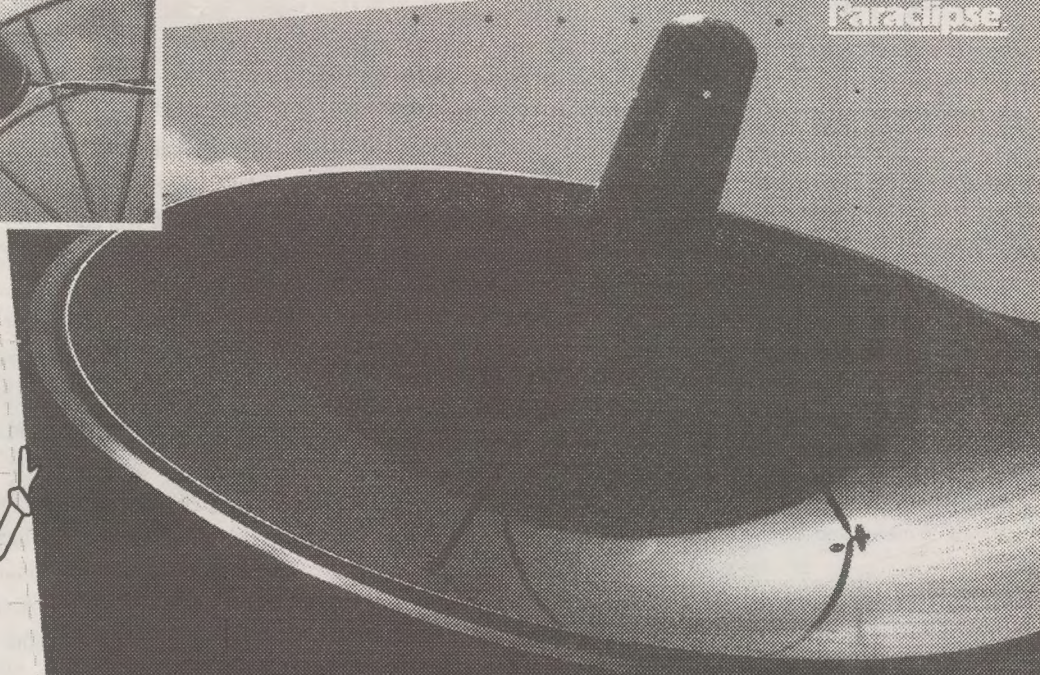
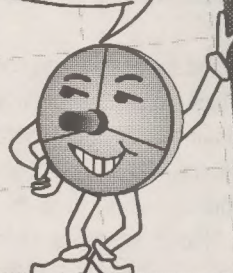
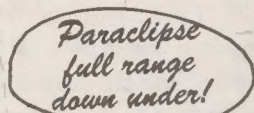
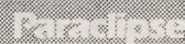
Sky (horse racing) Australia now on C1 in B-Mac (4140Vt/1010IF) plans move to As2 (TR10A, 4020Vt/1130IF) on May 20, then (As2) MPEG as soon as July. They are appointing regional sales reps to DTH subscription sales, Studio 7 New Caledonia is one of first (tel/fax 687-28-41-56) or JT Murphy at Sky Channel (fax 61-2-452-4540).

ATN went away again (SF#20, p. 2) and was replaced with similar format Asia Satellite TV on 142.5E Gorizont (1465IF). ATN's history has been one of serious financial problems and their tardy payment to the old Rimsat group led to Russian take-over of both Rimsat satellites (SF#14, p. 24).

STAR's MPEG testing on As2 is advancing a level: Transponder 2A (3700Vt/1450IF) now has conditional access built-in; transponder 3A (3740Vt/1410IF) will shortly have CA. However, for those trying out new DVB Compliant receivers, transponder 7A (3900Vt/1250IF) which is being fed to Japanese cable systems will remain "open key" for sometime; reason? NTL 3000 receivers used by Japanese cable systems were never designed with upgrading to CA (conditional access) in mind. Until NTL sorts this out, or all receivers are replaced with new units having CA capability, 7A remains "open" (28.1 Msym/sec, FEC 1/2; 4 programme and 2 test channels here).

TV5 (Paris) contact: Jim Hodgetts 33-1-44-18-55-71.





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## AUDIO SERVICE TUNING TIPS

**180E/ Voice of America** feeds in various Asiatic languages, English at receiver IF of 1176 MHz. Audio subcarriers on 6.6, 7.02, 7.20, 7.325, 7.425, 7.515, 7.605. E-mail on 6.2775 and wireless data file on 6.2325 MHz.

**177E/ Armed Forces Radio & Television Service (AFRTS).** subcarrier on 7.41 MHz of encrypted AFRTS TV service at IF of 973 MHz. AFRTS Radio carries live sports coverage, syndicated news and music programming in English 24 hours per day. Note: This feed is on LHCP (left hand circular polarisation) contrary to most Intelsat feeds.

**140E(96.5E, 90E, 80E)/ Radiostantsiya Mayak** from Moscow on 3675/IF1475 audio subcarrier of 7.50 MHz. Russian language sports, music, news and weather on hour and half hour.

**113E/ Radio Australia** on 3880Hz/IF1270, subcarrier of 7.20 MHz., VOA on subcarrier 7.80.

**100.5E/ Within Deutsche Welle European Bouquet** in MPEG-2 DVB Compliant digital, 4000Hz/IF1150MHz : Ch. 1 DW TV, Ch. 2 TV5, Ch. 3 RTVE, Ch. 4 (no present use), Ch. 5 (no present use), Ch. 6 YLE & RCI radio, Ch. 7 SRI and WRN radio, Ch. 8 DW Radio, Ch. 9 DW Radio 2 and 3, Ch. 10 DW Radio 4 and 5.

**100.5E/RDP (Portugal) International** on 3983V/IF1167 on 7.20 MHz.

**100.5E/ Within Star TV MPEG package** on 3700V/IF 1450 is DigiMusic service (channel D).

**66E/ Vatican Radio** reported to be available on Intelsat 66E, possibly within WorldNet feed at 4015/IF1135. Additional information sought.

**66E/ La Voix du Zaire** on 3790/IF1360,

### Satellite TV Related Web Sites

#### Australia

<http://www.ultra.net.au/~kristal>

#### New Zealand

<http://www.earthlight.co.nz/baysat>

#### New Space Network

<http://www.isso.org/home-lo.html>

#### Space Doctor/Sweden

<http://www.algonet.se/~rymdis/EW.htm>

#### Satco DX/Europe

<http://www.sat-city.com>

#### Satellite Encyclopedia/shareware

<http://www.tele-satellit.com/tse/>

#### MediaScan News/Sweden

<http://www.sr.se/rs/english/media/scdx.htm>

#### Steps To Heaven/Germany

<http://www.op.dir.de/wt-rm/mb/leop.htm>

#### Launch Dates & Satellites

<http://vermithrax.jpl.nasa.gov/calendar/calendar.html>

#### Intelsat

<http://www.intelsat.int:/8080>

## HARDWARE EQUIPMENT PARTS

## UPDATE

MAY 15, 1996

**C2M Ariane rocket launch**, originally scheduled late April-early May, is now set for 17 May but could slip again. Although there is no "official" announced orbital plan for satellite at this time, SF understands C2M will go to 150.5E (not a typo) for testing to last a month or more. Based upon test results, future of C1 and C2M will then be decided. Options available include: (1) leave it at 150.5E, (2) replace C1 at 113E, (3) replace B2R at 108.1E (April 1990 launched), (4) replace B4 at 118E (launched May 1992), or (5) none of the above. The now out-of-date original plan was to put C2M at 108E; 150.5E is a "spare" orbital location for Indonesia and B2P was originally to be sent there for its inclined orbit declining years. If they do make May 17 launch date, look for test signals shortly after 1 June.

**DVB Compliant receivers:** Skandia Electronics scheduled to receive first shipment of Pace DVR-200 FTA version receivers (suitable for Deutsche Welle European Bouquet and others following DVB format if not using any conditional access [CA] software) today (May 15th). NZ distributor affiliate Baysat should have its allotment shortly thereafter. Skandia did yeoman effort to get a pre-production model to SF for test and review in this issue; missed our deadline only by days. Thanks for trying, Leon! (see page 12, here.)

**AsiaSat 2 Ku DTH plans** are at risk because of two or more failures on Ku side of satellite. Ku band consists of 9 transponders, 54MHz wide, pointing north-east through China, Taiwan, Japan and Korea. Ku side has not checked out; there are circuit losses between uplink receive antennas and downlink transmit antennas of 13 dB or more; significant enough to change character of As2 Ku service from once promised small dish DTH to at best signal levels that will only work with antennas in 4m and up class. Only Star TV and CCTV are known to have reserved As2 Ku space.

**DVB learning curve.** AsiaSat engineering specs require DVB format transponder users to equip uplink transmitters with special "sideband skirt filters" to eliminate possibility that energy through the assigned transponder does not end up causing signal pollution in immediately adjacent transponders. This "spec" is more rigid than European DVB Compliant skirt filter requirements and as Star has learned and DW will undoubtedly discover, operating in 'DVB Compliant mode' may be more complicated than simply unpacking uplink gear and turning it on. Star's As2 TR7A has been test bed for refining what will and will not work.

**Scratch Echostar** at 148W (SF#20, p. 4) as potential Ku source. Barring mis-shaped footprint, Echostar 4 (now announced sometime 1998) will use first "shaped Ku footprints" of US DBS satellites; essentially, tightly controlled ground coverage hitting just one metropolitan area (such as Los Angeles) and avoiding all the rest. A good trick if they can do it!

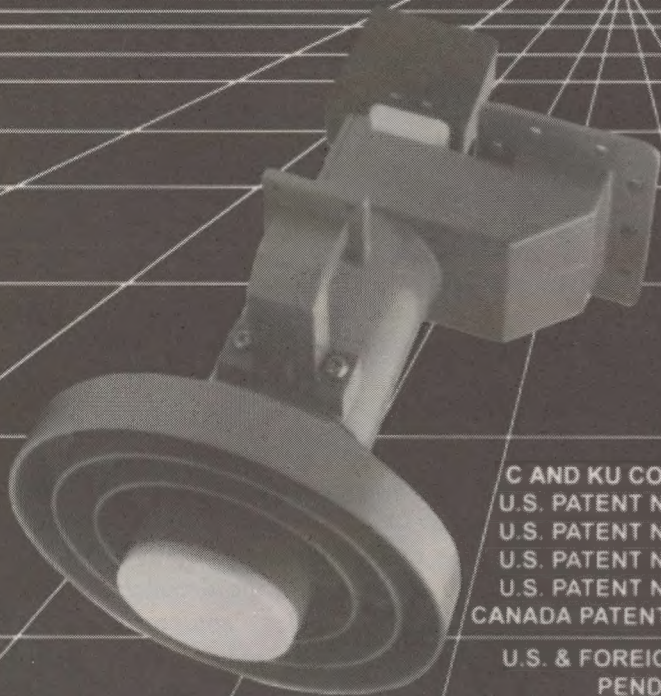
**ABC Australia** has agreed to purchase Scientific Atlanta PowerVu MPEG system, will install 8 new 6 to 9m SA terminals as part of transition from analogue to MPEG feeds. Time schedule not known.

**Lesson learned:** When first connecting up ANY DVB Compliant receiver, do the following on your system. (1) If your feed has a Teflon slab to give you circular reception, take it out. (2) If you have line amplifier in C-band line, take it out. (3) If you are running through a signal splitter to feed multiple receivers, go directly from DVB Compliant receiver to antenna - use no splitters. (4) If your feed antenna to indoor (receiver location) coax is aged, replace it. Digital is VERY fussy about line "ringing" (mismatches) and will not come up if there are poorly terminated or unterminated connections at any point between feed and receiver.

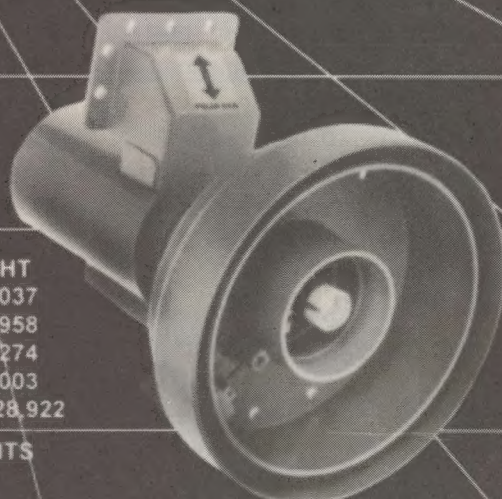


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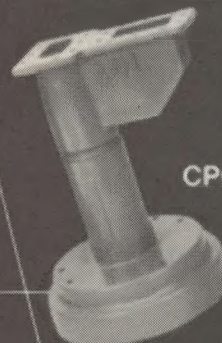
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## THE CDE-2000 & INDOVISION PACKAGE

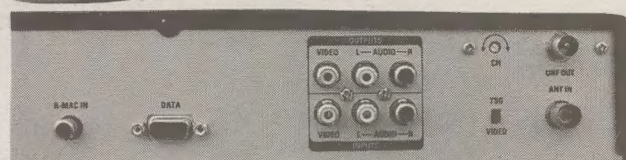
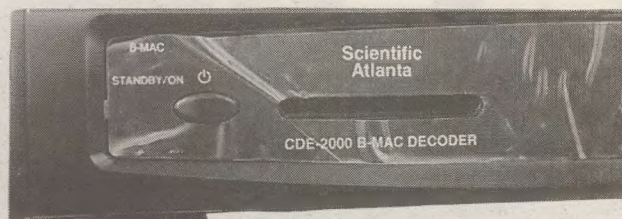
Indovision, supported by pay programmers HBO-Asia, ESPN, Discovery and TNT + Cartoons, requires a special for Indovision B-Mac decoder manufactured by Scientific Atlanta; the CDE-2000. This service cannot be received with SA model 9708 (Pal) version decoders as the encryption addressing algorithms used by the Indovision service are unique to that service.

Until August 1995, Indovision had attracted a reported 10,000 subscribers paying US\$500 for the decoder and US\$480 per year for the four channel (originally also included CNNI) package. On a monthly basis, the total receipts for Indovision fell far short of the income needed to even service the transponder costs and the programmers urged a rethinking of the entire project.

From August onward Indovision dropped its charge for the decoders to US\$310 and the annual charge for the four programme channels to \$264. This caused the subscription uptake to skyrocket in 6 months to more than 29,000.

Despite this growth Indovision, in its present analogue format, is not likely to survive as a permanent fixture on C1. The costs associated with operating the service suggest a minimum subscriber base in the 100,000 plus region would be required to justify tying up four C1 transponders. Indovision, the company, has entered into an agreement with Star TV to offer 15 channels of MPEG-2 digital television and there are several likely methods of transmission being considered. One of these would utilise a transponder or two on C1, another possibility would have the same package transmitted through As2. The third and most desirable for Indovision would utilise a new satellite planned for launch late this year or within the first half of 1997. Called *Indostar*, this "lightsat" is less than 1/5th the weight and size of standard satellites and will operate in something called "S" band (2,520-2,670 MHz) for television and "L" band (1,467-1,492 MHz) for radio. The precise geostationary Clarke belt location for Indostar is not settled but it is likely to take up residence between 105 and 115E. See boxed insert here.

CDE-2000 units are now affordable, and authorised distributors exist throughout Singapore, Brunei, Taiwan, The Philippines, Thailand, Indonesia, Bangladesh, and Papua New Guinea. Unauthorised distributors in the so-called "grey market" are found throughout the western Pacific islands and Australia. The Jakarta street price is US\$584 (CDE-2000 plus a year's advance



Scientific Atlanta CDE-2000: Users say good value in a B-MAC decoder

subscription to programming); prices outside of Indonesia vary upward to as much as US\$1,500.

### Connections

This decoder is driven with an encrypted baseband (video) output signal taken from the satellite receiver. Normal receiver video outputs, intended for viewing on a monitor, recording or to drive a modulator, will not drive the CDE-2000. Technically, the decoder requires an unfiltered, unclamped video source. Receiver manufacturers that provide this second video output (the first being the normal video out) designate it in a variety of ways: COMP BB (or simply BB as on Winersat WR-3000, COMP as on Drake 1255 ), MAC OUT or DECODER OUT are examples. The unit will not decode from a "normal" video output jack. And some European receivers with D2 MAC outputs may not drive it either.

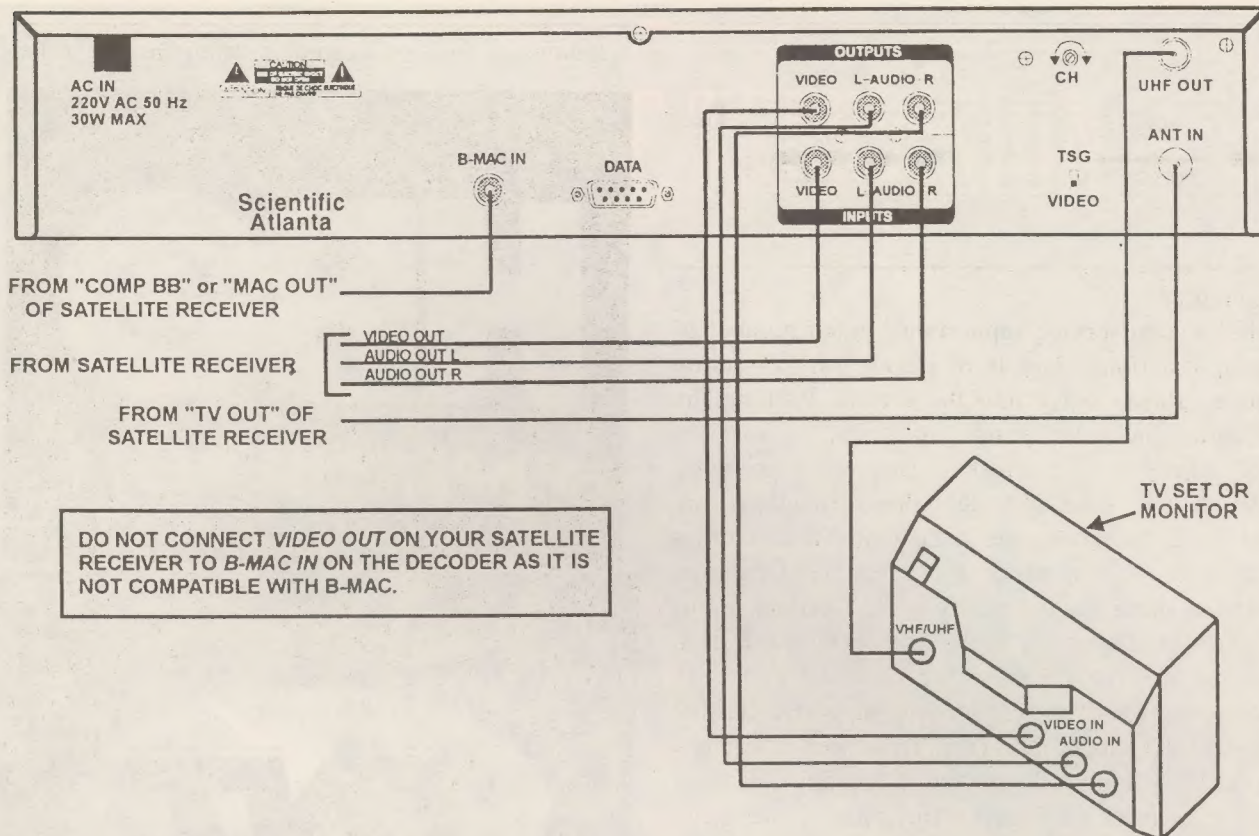
The proper baseband output is connected with an RCA-RCA line (provided) to the decoder's B-MAC input. The decoder not only corrects (decrypts) the video but also provides decrypted audio from the decoded composite signal fed in.

Output then connects to a TV monitor (RCA output jacks for video and audio), an external modulator, VCR or other viewing equipment. The decoder comes with a set of RCA-RCA cables for this purpose.

In an installation where the analogue satellite receiver is used for FTA as well as encoded reception, there is a provision on the rear of the CDE-2000 to relay the satellite receiver's normal video and audio outputs through the decoder. In this connection format, the decoder stays in line and when you are tuned to a non-encrypted service the video and audio taken from the satellite receiver goes through the decoder and then to the TV receiving system. A UHF modulator that can be set to any UHF channel between 543.25 and 615.25



# B-MAC DECODER



Traditional installation hook-up for CDE-2000 used with Indovision B-Mac analogue service

MHz is built into the decoder; a test signal is provided to fine tune the unit's UHF output channel to a frequency compatible with each receiving installation. Or, the receiver can be fed with baseband (decrypted) video and audio directly from the decoder. The best quality pictures will result from staying on baseband all the way through up to and entering the TV receiver.

## Check-Out Procedure

The unit is plugged in (220-240vac, 50 hertz), turned on and connected as shown. The satellite receiver is tuned to one of the Indovision C1 service channels (HBO Asia 4000/1150IF Hz, TNT + Cartoons 3760/1390IF Hz, Discovery 3720/1430IF Hz, ESPN 4100/1050IF Vt). On the upper left hand corner of the CDE-2000 are two LEDs. The lower LED should be glowing (green) to indicate the unit is functional. When

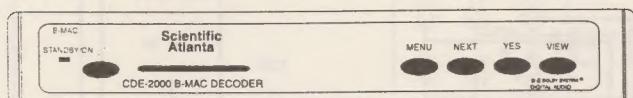
you have tuned in a B-Mac signal the upper LED will do one of three things:

- 1) It will light, indicated you have an authorised (for the decoder) B-Mac service,
- 2) It will flash on and off indicating you have a B-Mac service but it is not authorised for the decoder,
- 3) It will stay dark indicating you are not tuned (properly or at all) to a B-Mac service signal. If you have properly tuned the satellite receiver to a B-Mac service and the lower LED does nothing, you have a (return to the distributor) major problem. But before you send it off for repair, try a different brand of satellite receiver remembering that you must have the decoder connected to an unfiltered, unclamped baseband output; the standard "video out" jack will not drive the CDE-2000. Period.

## -ABOUT INDOSTAR-

Indostar will have an initial in-orbit mass of 680 kg with a planned lifetime of 10 years. The satellite footprints are not published but the coverage is intended to be Indonesia only. Past experience with "S" band footprints (India, for example) suggests there will be considerable "spill over" beyond the target area. With TV downlinks operating from 2,520-2,670, 10 "channels" each 15 MHz wide are available for medium grade analogue transmissions. There is room here for as many as 19 MPEG compressed programme channels, or some combination of analogue and digital. Additionally, Indostar/Indovision will pioneer in Asia the use of the 1,467-1,492 MHz downlink range for delivery of "CD quality" FM or digital radio channels. Using conventional FM analogue techniques, there is room for 125 stereo FM channels. Equipment for "S" band? Because India pioneered use of this frequency range (dating back to ATS-6 in 1975!) and present Insat satellites include "S" band linking (as does Arabsat for the Middle East), antenna feeds and LNBs are available from many sources. The "L" band radio will, however, require an entirely new breed of receiving equipment.





### Menu Functions

The Indovision service supports a limited number of user menu functions. The front panel "Menu" button (see above) allows entry into the menus. Pushing the menu button one time brings up a list of services available. There is no teletext or captioning presently available to the user although these functions are included in the on screen menu. Pushing Menu 5 times gains entry to the on screen DTH/PPV configuration screen and pushing 7 times gets you the Decoder Status Display Screen. These are useful for peaking the dish, checking the bit error rate and other parameters.

Of some interest - the decoder will support either the non-standard 4:3 aspect ratio (i.e., TV screen image is 4 units wide by 3 units tall) or with a decoder command you enter, the newer wide screen 16:9 ratio. However, to use the wider aspect ratio two factors must be in place: (1) the broadcaster must be transmitting in 16:9, and, (2) your TV receiver must be capable of processing a 16:9 display. Also of interest, the decoder is capable of storing and recalling up to 1,000 pages of teletext material although this service is not presently offered.

### Performance

In interviewing dealers and distributors who handle Indovision packages, CTD was repeatedly told the decoders are "robust" and as a rule require very little or no service. The video quality is usually described as "very clean, almost to a level of digital" but several told us "it tends to be soft, as if the video level out of the unit is below the normal 1 volt peak to peak" (which we are told it seldom is).

On marginal reception where the bit error rate (BER) is in the range of 25 or more the sound begins to pop (lost sound data) before the picture degrades (and disappears). An installation with "popping audio" is very close to losing the video as well. A C/NR of 8 dB usually produces quality pictures, 11 dB near studio quality images.

### Summary

Although the Palapa C1 coverage is "unusual" (see SF#20, p. 6) and many regions receive only a portion of the Indovision channel service, interest in the service is widespread throughout the Pacific. Signing up for the service outside of the designated service areas is a grey activity area, and the future of the Indovision package on C1 is uncertain. For now it is there, it works, and the entertainment value is good although a tad expensive.

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PROGRAM DESCRIPTIONS  
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This service is currently not available to our subscribers  
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## THE PROMISE OF TELETEXT SERVICES VIA SATELLITE

Teletext (a coded information service which is hidden inside of normal television broadcasts) allows a receiver with teletext ability to decode and select a vast array of on screen printed and graphic materials. Teletext is well established on many European and North American services and CNNI, for example, offers hundreds of pages of printed text news but unfortunately not yet on Pacific and Asian feeds.

To receive teletext (tt) you need two things:

- A television receiver equipped with teletext decoding ability
- A clean enough signal to ensure that the often fragile teletext data stream is not corrupted by receiver noise.

In some respects teletext that is degraded by noise or other receiver induced problems acts much like digital; the "error rate" of the received data rises to the point where only a portion of the data is received. This results in partial screen prints (words that are missing letters, sentences with entire words missing, graphic drawings [artwork] with missing segments). A really serious system installer could utilise the teletext error rate to fine tune a satellite dish systems; simply tweak the dish, feed and receiver for minimum error rates (or ideally no errors) on a marginal signal.

On Palapa C1 are a number of services which support (contain) teletext. Most broadcasters who include this service do so as a means of collecting additional revenue. Entire pages of teletext are sold for commercial sponsorship, and specific teletext information (such as the airline arrival and departure schedule at the Jakarta

### TVRI (3840Hz/1310IF) "Hot" Pages

- Page 601 - list of TV programmers
- pages 617-620 - CNNI schedule
- page 621 - Discovery schedule
- page 622 - ESPN schedule
- page 623 - HBO Asia schedule
- page 624 - TNT/Cartoons schedule
- page 625 - (TNT) Movies All Night
- page 757 - Astrology
- page 770 - Humour

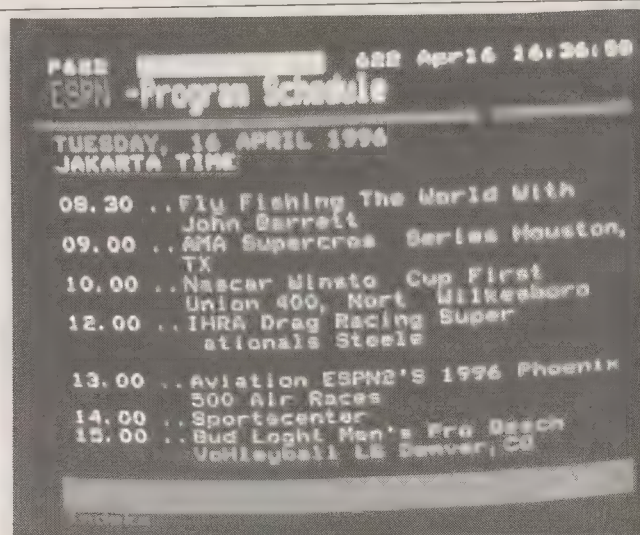
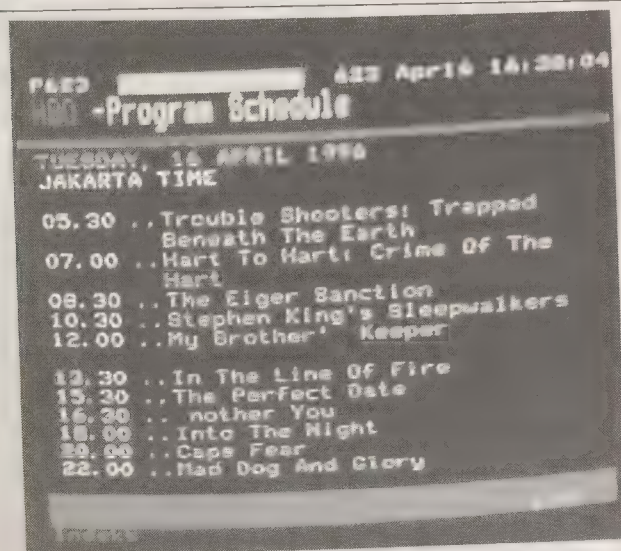
Others to check: TPI, CFI

In future: CNNI

airport) attracts partial-screen sponsorship by travel firms.

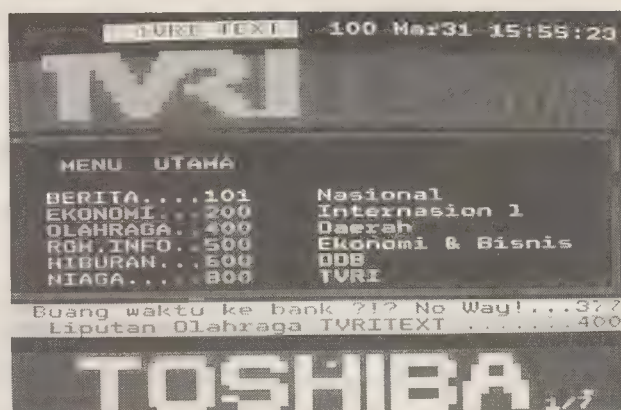
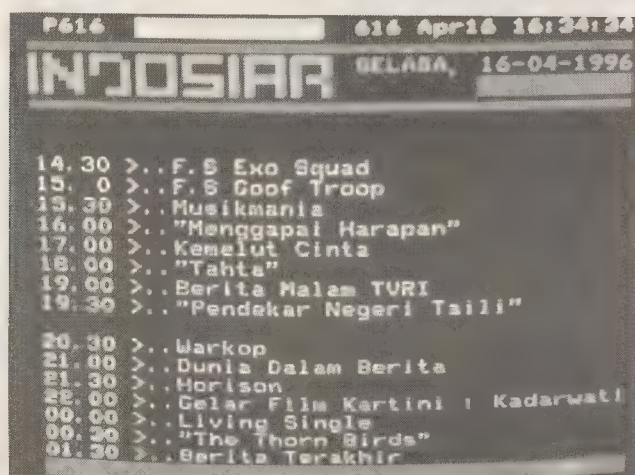
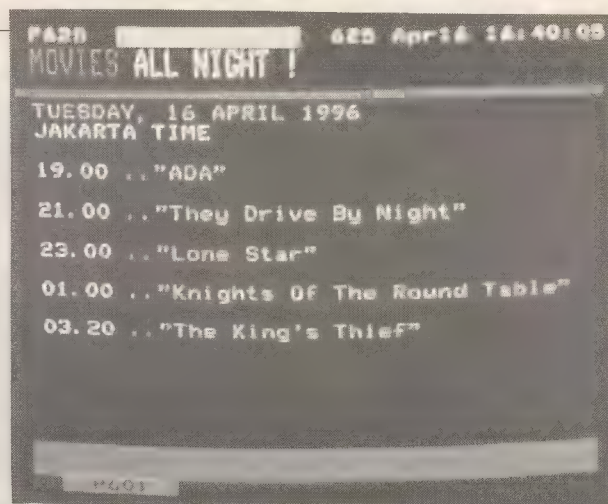
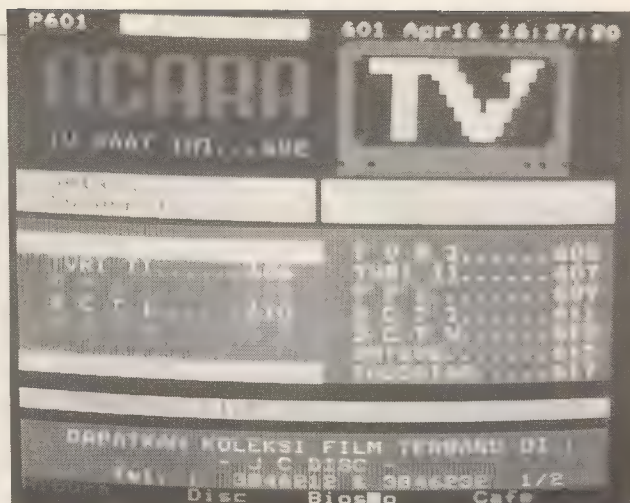
One of the more intriguing data sources found on C1 teletext are the programme schedules for various Palapa services. There is, for example, the complete TVRI and TPI schedules, even the full day schedule for Indovision services HBO Asia, ESPN, Discovery and TNT movies. There is also schedule information for other Indonesian services (such as Anteve).

Of the presently available tt services on C1, TVRO is without question the most complete service presently received south and east of the primary Palapa coverage region. TPI service (4080Hz/1070IF) is less frequently updated (some programme schedule data goes back more than one year!); CFI seems to carry tt only during programme segments which originate with the French



HBO Asia and ESPN programme schedule information via TVRI tt pages; day current only





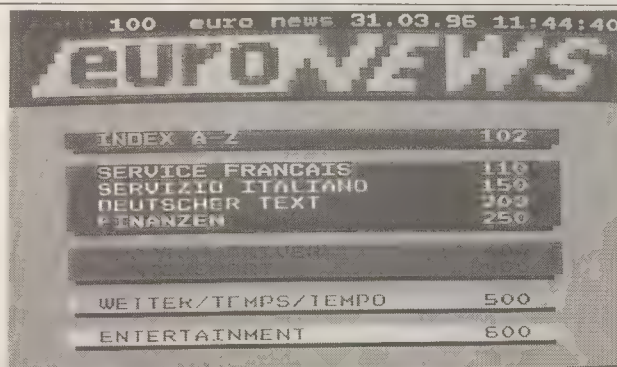
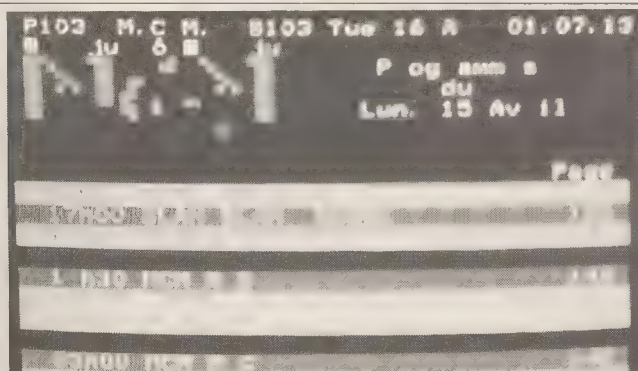
Teletext programme schedules and current information through TVRI pages

overseas music service (MCM) or EuroNews and this is often polluted (error riddled) even though the CFI signal is clean. This is an indication of a failure on the part of CFI to maintain proper watch on the tt parameters of their MCM and EuroNews feeds rather than any probable fault in your receiving system.

Teletext (known by various names within different countries) is missing from some otherwise state-of-the-art services; Deutsche Welle (DW) on As2, for example. No, there is nothing unusual about the MPEG-2 format which should preclude the transmission of tt; the decision not to have it present is a business decision, not an engineering choice. Similarly, European

Bouquet RTVE and TV5 are also not presently transmitting tt. The Bouquet's RAI Uno and MCM have not yet (5 May) begun operation but we already know MCM will have teletext from the CFI experience.

At the consumer (or cable) level, teletext is another extra service that makes reception from these services more attractive. And it is more than a novelty because by providing programme scheduling information it directly benefits the user. As more services come on line we will keep you advised of additions. Readers are also encouraged to send along tt information for future updates.



CFI MCM/EuroNews tt may be polluted (left) or clean (right) depending upon how carefully the link from MCM/EuroNews is policed by the technicians in France



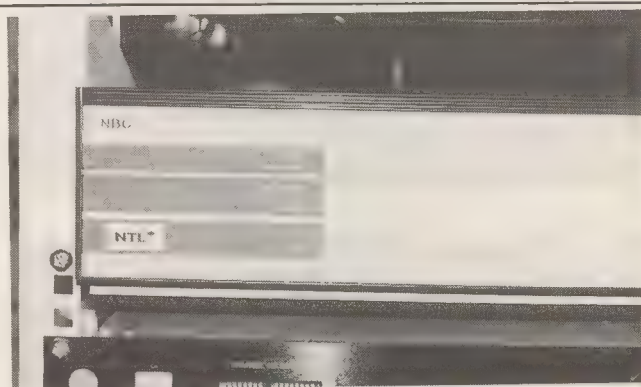
## MPEG DVB COMPLIANT UPDATE NUMBER 3

NTL (National Transcommunications Ltd; UK) System 3000 receivers, chosen by Deutsche Welle for use by their television broadcast affiliates, are now being received throughout the As2 coverage area by broadcasters. SF has tested one of these units on the Bouquet service.

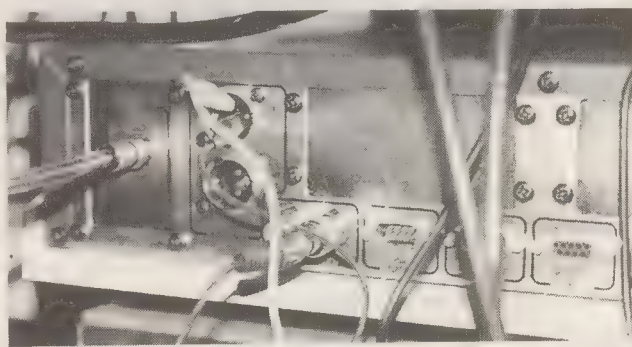
After our exploration of Star TV services on As2 using a borrowed Galaxy DGT-400 receiver (SF#19, p. 9) hundreds of readers have apparently done their own "tests" with the Pace built Galaxy unit. Nobody reports they can access DW MPEG-2 video with the receiver although some report they were successful in making the receivers play on the Bouquet radio service channels. We had been warned by several knowledgeable Galaxy engineering sources to not expect DVB Compliant MPEG to "play" through these receivers but of course there was the optimistic view that these sources were wrong. There persists the story that if you know the "secret" remote keyboard entry command, and execute it at the precise interval specified, you can make the Galaxy receiver work on DVB Compliant signal sources. We have yet to receive any verified reports of this technique actually working.

The NTL System 3000 receiver is expensive; Star TV cable affiliates in Japan, for example, are paying US\$5,000 for this receiver for their cable headends. Star is feeding four channels of service via As2 at this time to Japanese cable clients. The unit SF obtained for test had been front panel engraved "NBC" (as in NBC Asia) by some unknown party prior to our receipt. NBC originally told cable affiliates back in January it would ultimately end up using (NTL) Pace receivers for the NBC Asia feed and CNBC plans use of Pace DVR-500 series MPEG receivers when it switches to MPEG on PAS-2. There is additionally the unverified report that ABN will be utilising the DVR-500 for its new MPEG feeds on C1 as well. This in turn suggests that ABN, NBC Asia, and CNBC may well end up in a common DVB Compliant C1 transponder 'bundle' in the future.

A handheld remote has an access code (push **access** and then **0 - 0 - 0**) to gain entry to the on screen menus. The user sets the various DVB MPEG parameters as well as selecting C or Ku (frequency/polarity inversion) and RF (not IF) input parameters. First you set up the parameters, then you go to "Guide" and select which actual programme channel you wish to access. There was no manual with our receiver, only 4 typed pages



NTL 3000 receiver rack mounts, is totally operated through handheld (IR) remote. Front panel LEDs (left) report receiver status back to you. Rear panel is straight forward except for unusual use of 'XLR' type male plugs for audio outputs (below).



originating at NTL's name successor (Digi-Media Vision, 34 A-C Parham Drive, Eastleigh, Hampshire, UK) carrying a March 13 (1996) date. The set-up parameters are:

- LNB LO Frequency - 5150 MHz
- Spectrum - Inverted
- Tuning Frequency - 4000 MHz (\*)
- Polarisation - Horizontal (\*\*)
- Symbol Rate - 28.1250 hsym (\*\*\*)
- FEC Code Rate - 3/4

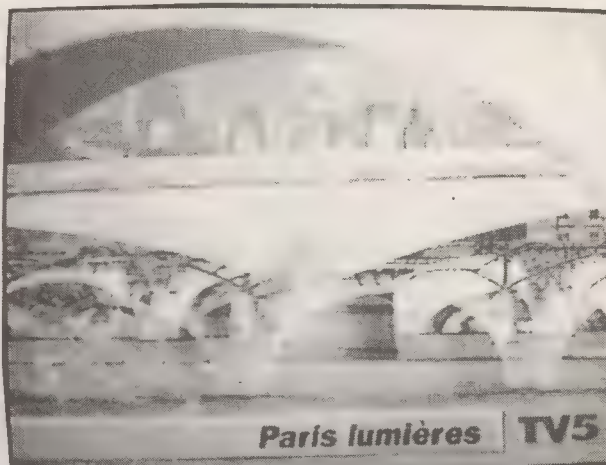
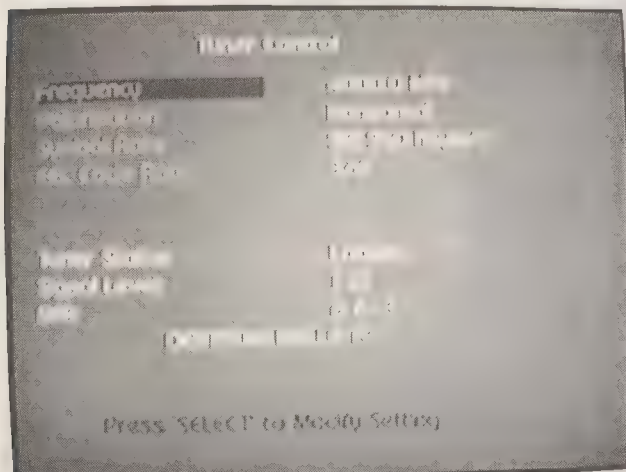
\* - Actually, because of decimal points you will enter 40000 (extra 0) to make it play

\*\* - While polarisation is a menu entry item, there appears to be no facility to operate feed polarisation

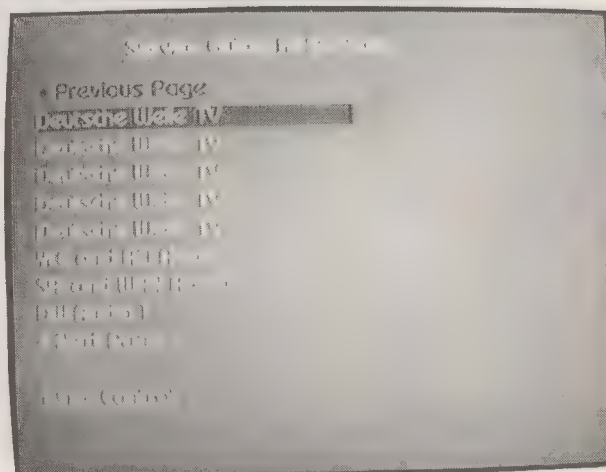
\*\*\* - The 4 page instructions listed the symbol rate at 281.250 but in fact the decimal point appears as shown above, not as on the sheet

Once the receiver technical parameters are entered (following modest on screen prompts) you are ready to tune in a service. Now you press "Guide" on the remote and a listing of the Bouquet services appears on screen. Using arrow buttons on the remote select the appropriate





**Paris lumières** | **TV5**



Through "Guide," select programme channel desired

The change out from 9222 to 9223 units for CMT is still not underway at our deadline; there has been no advisory from CMT nor PanAmSat.

The 'big' news is that Skandia Electronics (Leon Senior at tel 61-3-9819-2466, fax 61-3-9819-4281) is anticipating their first shipment of DVR-200 DVB Compliant digital receivers sometime after May 15. The DVR-200 appears to be a variation of the DGT-400 designed for C (or Ku) use including polarisation control and other typical DTH features. Senior promises the now well known DGT-400 problems (in particular, 'running hot') have been corrected with the newer unit. Skandia distributors have been taking orders for this receiver since late April, dealers should already have pricing from their regional distributor (1). SF anticipates reviewing this unit in the June 15th issue.

The steady flow of DVB Compliant receivers will determine the rate of growth for the European Bouquet. Waiting in the wings are dozens of additional programmers who can only schedule their own launch around the anticipated receiver supply lines.

1/ In New Zealand, Bay Satellite TV at tel 64-6-878-9081, fax 64-6-878-5994.

Maser Technology Group (Ken Clark at tel 64-9-479-7889, fax 64-9-479-6536) has been told to expect their first shipment of Scientific Atlanta D9223 receivers about the time you read these words. These should be the first ("For Sale") DVB Compliant version units from SA to arrive in the Pacific.





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- PLUS - we offer a CHOICE of DVB Compliant MPEG-2 receivers to "future-proof" the installation.

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## SL-8000RP

4500 years ago, the Egyptians were so far advanced in building technology that the pyramids were considered to be one of the Seven Wonders of the World. Today, still standing, these magnificent shrines to the achievements of man leave us marvelling at the skill and dedication of these ancient people. Fine craftsmanship is truly an ageless art.

Palcom receivers reflect skills and craftsmanship based on the same traditional values. The flagship of the Palcom range, the SL-8000RP is another marvel of technology.

## From BC2500 to SL-8000RP

Its unique moving Picture-in-Picture feature permits the viewing of two channels at the same time (on one TV or two) or watching one channel whilst recording another. Mix images from satellite and terrestrial TV, satellite TV with VCR playback or satellite TV and security camera output with a choice of picture size for each image source.

The weakest signals may be viewed using the Palcom low threshold tuning facility producing improved video and audio performance.

A built-in antenna positioner provides access to all current satellites

500 Channels • 2 Tuners • 3 IF Inputs • Weak signal Video and Audio processing • HiFi 1600 • Stereo Audio processing (surround) • On Screen Display in 6 languages • Channel Naming • Satellite Naming • LNB Naming • Decoder Naming • 16 Local Oscillator presets (adjustable) • 22kHz Tone Switching • Global and Fine Ferro/Skew adjustment • Alphanumeric Channel List • Favourite Channel Function • 16 Preset External Decoder configurations • Internal VideoCrypt ready • Timer / Priority switching for TV and VCR

with software by...

**PALCOM**

STREET 41, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000



## 1996: WHAT IT MEANS TO OWN A SATELLITE DISH

Welcome to the world of international satellite TV. This is a magic kingdom where all of the rules regulating normal television reception are discarded, to be replaced by tens of free to air and an equal number of by-subscription (pay TV) channels. What sets satellite TV apart from normal (terrestrial) TV is one thing: distance is no object.

Terrestrial TV beyond 100km from the transmitter is seldom satisfactory. Satellite TV knows no limits; the image and sound from Paris on CFI is every bit as good (or better) on your TV set as the reception from a terrestrial transmitter only tens of kilometres distant.

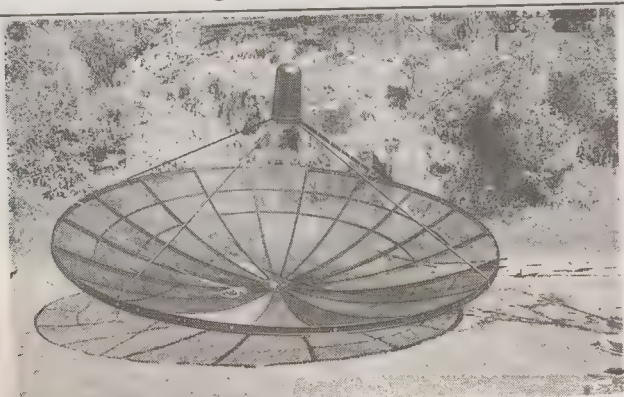
The technology that makes satellite TV possible, and affordable, has been proven for more than two decades in Europe, North and South America, even Africa. In late 1995 this technology and a host of new satellites to provide it arrived in the Pacific to serve both this region of the world and Asia.

There are three initial groups of users of satellite TV here in the Pacific:

- 1) Electronic enthusiasts who enjoy the new challenges of a new technology,
- 2) The individual or family that enjoys being "first" to use and benefit from anything that is new and better,
- 3) People who live in areas where terrestrial TV does not reach, or where the reception is of poor quality.

### The Costs

Satellite TV reception requires a special assemblage of equipment. There is an outdoor ("dish" or "disc") antenna and some electronics that installs at the antenna, there is special cabling indoors to your TV viewing area, and inside a purpose designed "satellite TV receiver." That's the basic group; you can add to that many



A satellite dish is labour intensive to assemble and requires precision skills; not a do-it-yourself project unless you like challenges! (Photo courtesy Barnetts)

### BEGINNER'S CORNER:

Practical considerations when purchasing a home satellite dish system.

accessories which will increase the number of satellite programme channels available to you.

The universe of programme channels is growing monthly, will double in quantity by mid-1997. The mixture of channels is now nearly 50-50; that is, half are free to air (merely install the equipment and tune in) and half are available by monthly or annual subscription. If a channel is available by subscription, it requires an accessory device known as a decoder. The decoder situation is changing rapidly and most by-subscription programmers are migrating to a decoder format known as "digital." Today you may require two or more different decoders to tune-in the subscription channels most appealing to you. By mid-1997 the majority of the subscription channels will utilise a digital decoder.

Subscription fees vary widely from as little as US\$50 per year to as much as US\$2,500 per year! Most channels are in the region of US\$100 per year, or A/NZ\$0.45 per day for a channel. This compares very favourably with fees charged for terrestrial pay TV services (Sky in New Zealand, Galaxy in Australia).

### Programme Rights

One of the most complex issues relates to "copyright." These are the ownership rights held by the programme makers. There are no rules or regulations that demand a programme rights owner make his programme available to anyone who wishes it. Each programme, sporting event, news coverage service has its own copyright and the owners of these programmes sell these rights to channels seen on satellite. Often the rights are limited by the rights owner to a specific geographic region. For example, HBO Asia, a recent-movie service, purchases approximately 60 movies each month to show on its 24 hour service. It pays the individual movie rights owners only for their permission to broadcast these movies to subscribers located in Bangladesh, Brunei, Indonesia, Papua New Guinea, (The) Philippines, Singapore, Taiwan, and Thailand. The movie rights owner takes the very same movies to Australia and sells them to Galaxy (pay TV) and to New Zealand and sells them to Sky (pay TV). In each sale the pay TV company (HBO Asia, Galaxy and Sky) all receive "exclusive retransmission rights" for that specific movie within their country or area. Furthermore, each is denied by the movie rights

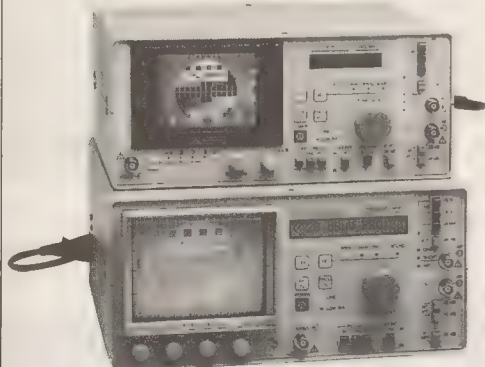
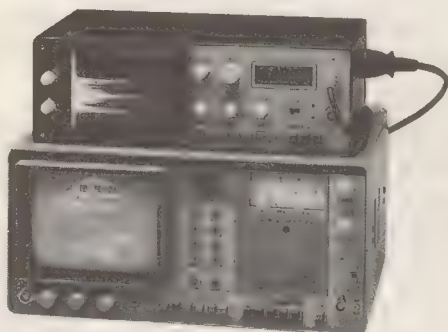


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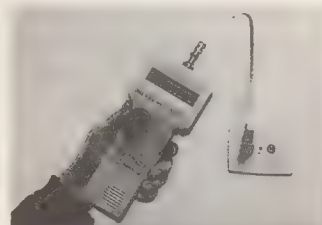
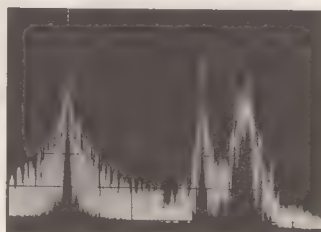
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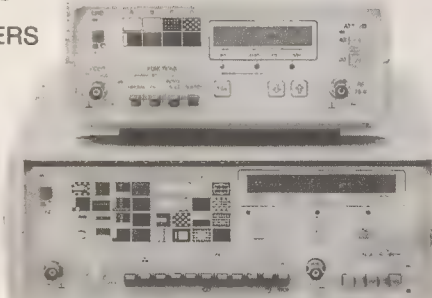


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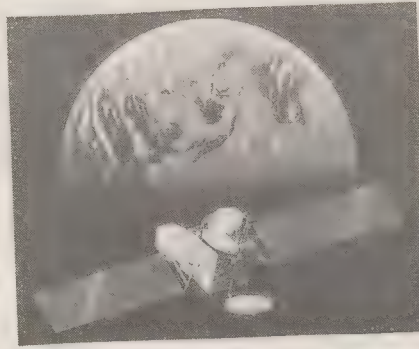
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**GOUGH**  
TECHNOLOGY

Precisely!





TV satellites circle the earth .... Individual satellites serve portions of earth .... with regional channels

use contract permission to show the same movie to subscribers outside of their specified coverage area.

HBO Asia is, however, received very well in most of Australia, New Zealand, and throughout the western Pacific (on the Palapa C1 satellite).

To anyone desirous of subscribing to the HBO Asia all-movies, all-the-time programme package this presents a problem (unless they live in a country which HBO holds distribution rights for). There are three levels of "legal conflict" here:

1) In Australia and New Zealand, Galaxy and Sky TV would feel "invaded by HBO Asia" if HBO knowingly accepted subscribers in those two countries. And each would complain to the movie rights owners that because of HBO Asia accepting customers in their country, they no longer were getting the "exclusive rights" to the movies they have paid for.

2) In unnamed countries, such as New Caledonia and The Solomon Islands, nobody has rights to these particular movies. These countries were not included in the contract that defines HBO coverage rights, nor has any other pay TV company in these countries contracted for rights there either.

3) And within Australia and New Zealand, where Galaxy and Sky hold "exclusive national rights," there are many geographic regions which respectively Galaxy and Sky are unable to serve (i.e., their transmissions do not universally blanket all of the two countries).

This situation has created a "grey market" for subscription services where the ultimate subscriber is in fact located in some country outside of the programmer's contract defined area. Or, someone living in Australia or New Zealand beyond the reach of Galaxy and Sky who cannot subscribe because of a lack of coverage.

The legal and business issues here are complex and often not well understood by a layman. It is especially difficult for a new home-dish owner to comprehend how, if the service is receivable on their new satellite system and they are willing to pay the subscription fees why they are denied access to the programmes. Nobody has a clear answer to this challenge, today.

### Free To Air Ethnic Programming

Increasingly more and more nations of the world are making available, via satellite, their own national TV network services or a homogenised version of these services. China, for example, now distributes world-wide a 24 hour per day Mandarin TV service called 'CCTV'. Within a year, CCTV plans to expand to six separate Mandarin language services. For satellite viewers throughout Australia, New Zealand and the central + western Pacific, direct (usually 24 hour per day) "home land television" is now available from the following countries:

Australia, Brunei, China, France, Germany, India (Tamil, Hindi), Indonesia, Italy, Japan, Malaysia, Papua New Guinea, (The) Philippines, Portugal, Russia, Saudi Arabia, Spain, Tahiti, and United States.

A home desirous of viewing only a particular "homeland service" such as Deutsche Welle (Germany) will typically require a less expensive home dish system than a home that wants to "see everything."

### Local Receiving Conditions

Although satellite coverage is "universal" throughout the South Pacific, not every home is situated where it can install a dish antenna in a side or rear yard and tune-in all of the available signals. The satellite dish must be sited (located) where it has an unobstructed "view" of the satellites and this means no trees, buildings or hills between the dish centre and the satellite's location at a spot in the sky. A procedure known as "Site Surveying," using a special "Sat Site" tool, will determine which dish location on your property provides the best, unobstructed view of the satellite locations.

Most dishes mount on steel poles set into concrete near the ground. When a Site Survey is unable to find a suitable ground level dish location, the dish must be elevated (raised higher in the air) to gain the required unobstructed view.

### Conclusion

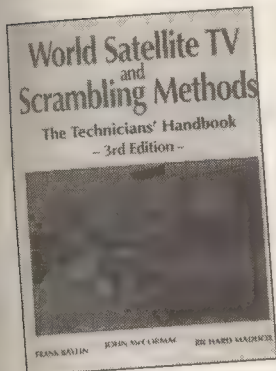
Your local expert is the satellite system installing dealer nearest to you. If he is a member of SPACE Pacific (the regional trade association) and employs the modern tools available to him, you are in good hands!



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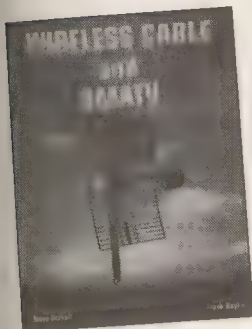


Known as "the technicians' handbook", this text is a must buy for technicians, satellite professionals, and enthusiasts. The design, operation, and repair of satellite antennas, feeds, LNBS and receivers are examined in detail. An in depth study of scrambling methods, and broadcast formats is the backdrop to a discussion of all current American and European satellite TV technologies, including the

Videocypher II, Oak Orion, Filmnet, UK Sky Channel, EuroCypher, D2MAC, BSB and Teleclub Payview III. Circuit and block diagrams of all components are presented and clearly explained throughout the book.....\$79

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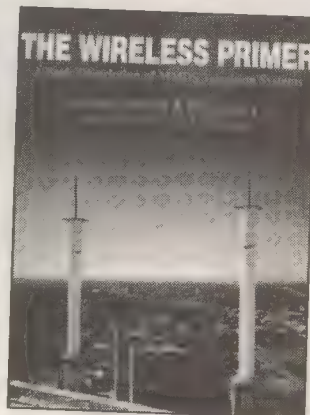


A comprehensive study of the new broadcast method, Wireless Cable, and the closely related field of satellite master antenna TV systems (SMATV). Three chapters are dedicated to details of the site survey, planning and design phases of a private cable system. Off air and satellite headends and all components from antennas to processing and mixing electronics are studied in detail. Ideal for those

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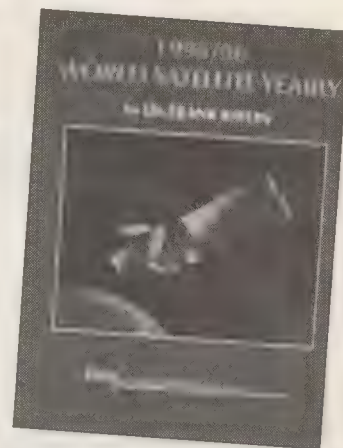


A 76 page complete description of MMDS television systems. This first edition, published in 1995, contains thirteen comprehensive chapters covering all aspects of system design, and shows actual on-air configuration of a 31 channel MMDS system. A valuable reference for anyone involved in installation or maintenance of an MMDS system, "The wireless primer" shows how one operator in the USA saved \$100,000 on hardware by following the designs in this book!! .....\$45

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## memo

to the membership from your  
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## SPACE Pacific

Satellite  
Programme  
Access  
Committee



A trade association for users, designers,  
installers, sellers of private satellite-direct  
systems in the Pacific Ocean & Asia Regions

We have asked members to comment on the establishment of "SPACE Recommended Installation Standards" which serve the purpose of being a "how to guide" for home and commercial dish installations. Member Eric Fien, Technical Director of Satellite Systems Installers Australia contributed three proposed working papers for member comment. We share the first with you, here.

### Mounting Poles and Their Resilience

The 'standard text' on ground pole mounts suggests that a 3.05m length of Schedule 40 (or 80) 89mm diameter seamless galvanised steel tubing be set about 0.9 - 1.25m into the ground surrounded by an inverted, truncated cone of about 1.5 cubic metres of concrete, with, for safety sake, a 'rebar cross member' welded on 0.5m from the bottom end.

Wrong: It could be a good mount, if - (a) the loading on the pole by the antenna didn't bend the pole a considerable amount (possibly enough in a strong wind gust to as a minimum momentarily lose the satellite); (b) the welded on rebar didn't, in the course of time, corrode and crack the concrete in the immediate vicinity; (c) there wasn't a lightning strike on the dish or mount, and, (d) if the cabling could somehow be rendered unobtrusive.

A far better 'modified' approach that does not cost much more to initially do is:

(a) Drill through the pipe at the 0.5m level and put a length of suitably sized galvanised water pipe through the mast: No welding, no bolts. When it is set into the ground the concrete comes right up to and fills up the interface; there are no air gaps, no rust pockets and no movement and as the pole is not 'heat treated' by welding, no change in the structural properties of the steel mounting pole.

(b) Encase the above ground section (up to just a few inches below the base of the polar mount) in a series of

stacked up hollow concrete blocks, inside of which you put (i) four reinforcing bars (the 'deformed' kind), ii) the PVC conduit to carry all the cables to the dish system, including of course a spare galvanised steel draw wire, and, (iii) concrete fill, carefully rodded down to avoid air pockets. The additional cost is about \$2 per block, \$6 in 32mm PVC conduit, \$10 in reinforcing rods and \$7.50 in concrete mix. However, with this surround for the mounting pipe the bending momentum of the pipe (assuming 200 mm square hollow concrete blocks) is increased by about 270%; and, if you will also fill the interior of the 89mm pole with concrete, the resilience of the pipe rises to 315% of an unsupported pipe.

The added advantages are the quite pleasant appearance of a small, neat concrete column supporting a dish with the wiring hidden inside, and a much, much more rigid structure that positively won't be blown off the satellite, barring a cyclone.

You can also spread the ground load considerably by creating a 'raft' about 250-300mm below the ground extending out from the pole 500mm, and bending the above mentioned reinforcing rods (4 total) at the bottom to 'splay' out into this concrete raft. A practical thickness is 100mm. Now you won't find the mount becoming loose in the ground after repeated wind gusts, even when the ground is soaking wet.

In the base section of the column I generally use a 'slow' PVC bend to taper the cables from the vertical to the horizontal over a length of 350mm or so. The gradual bend in the PVC is far easier to pull cables through than a right angle bend.

Member comment on this suggested technique for ground mount installs is solicited.

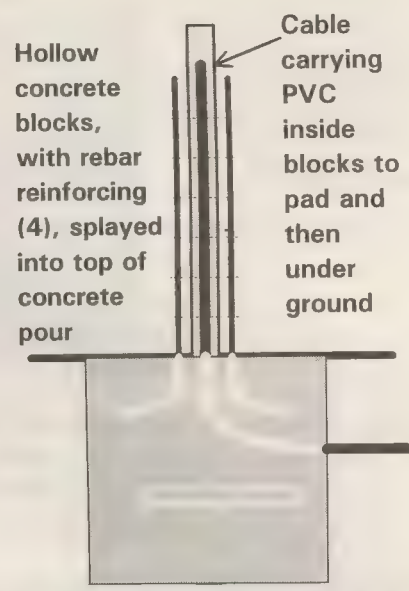
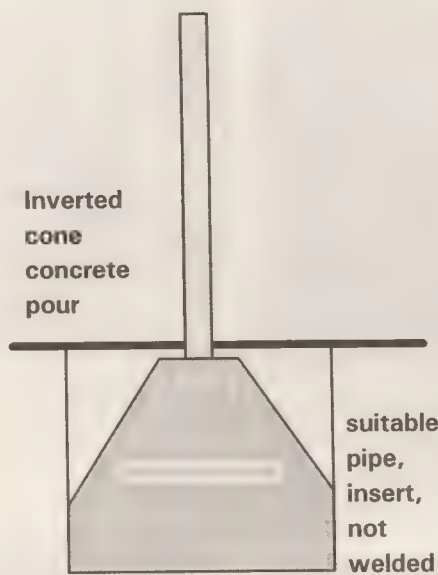
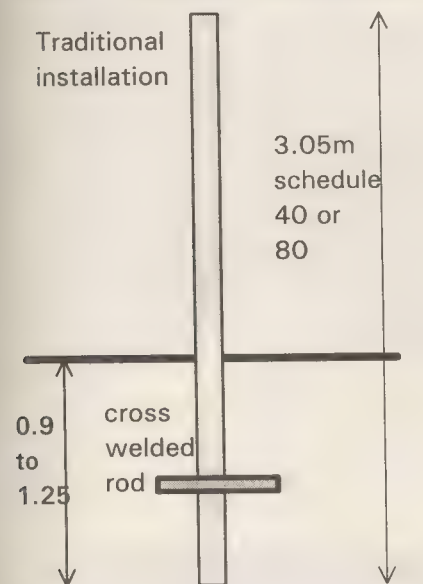
## MEMBERSHIP IN SPACE

Membership in SPACE Pacific is open to any individual or firm involved in the "satellite-direct" world in the Pacific and Asia regions. There are four levels of membership covering "Individuals," the "Installer/Dealer," the "Cable/SMATV Operator," and the "Importer/Distributor/Programmer."

All levels receive periodic programme and equipment access updates from SPACE, significant discounts on goods and services from many member firms, and major discounts while attending the annual SPRCS (industry trade show) each January in Auckland. Members also participate in policy creation forums, have correspondence training courses available. To find out more, contact (fax) 64-9-406-1083 or use information request card, page 30, this issue of SatFACTS. Page

space within SatFACTS is donated each month to the trade association without cost by the publisher.





#### Assembly Tips

By using a slightly rough (fine rasp) file to taper the ends of all PVC conduit sections, both inside and out, there are smooth and uniform surfaces when you cement the sections together. This eliminates cables being pulled through the sections 'hanging up' and causing snag problems.

Very sharp bends in cables, especially coax, are never advisable. At the top of the PVC column, rather than installing a 180 degree bend to prevent water ingress, try using neutral cure 'Silastic' to form a plug at the top. In this

way you create a nicely rounded 'hat' to fit the top 50-75mm of PVC which will keep moisture out but still be flexible for the cables.

When you are pulling cables through conduit it is much easier and creates far less strain on the cables to bundle them into a neat cylinder - do not twist them together. A steel leader wire which guides the cables through and which you actually pull is also advised. To make cables slide through with less friction, use 'Johnson's baby powder' sprinkled onto the cables as they are pulled into the conduit. The powder greatly reduces cable friction with the inner surface of the conduit. Now pull the cable through each section of conduit separately (before joining the sections together). When joining the sections together, use sparing amounts of PVC cement (using too much will increase chances of also cementing the cables in place!). No cement should get onto the inner surface of the conduit for this reason. In very long pulls, trying wrapping the leading section of steel draw wire in a cloth which will help clean the inner surface of the conduit ahead of the cables being pulled through.

Remember that any installation may have to be repaired or added to in the future; leave yourself the option of returning!

#### SPACE Membership Renewals

Members are now receiving membership renewal notices; this happens near the anniversary of your original SPACE joining date. A number of members have queried upgrading (from Individual to Installer/Dealer or to Cable/SMATV operator). The procedure at renewal time is simple enough; merely indicate on your renewal notice the class of membership you require for the new year and process your renewal form accordingly. If your certificate expiration date passes and you do not receive a renewal notice, please advise.

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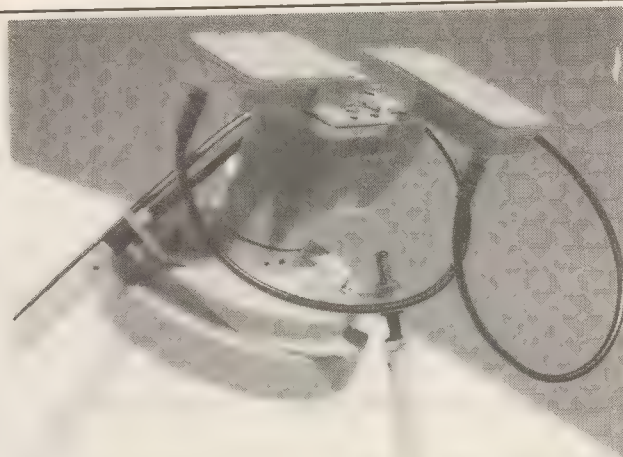
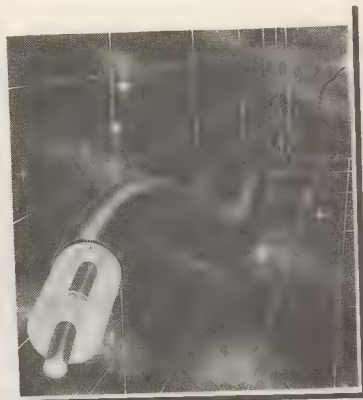


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# The CABLE Connection



## Orthomode Feeds

Cable and SMATV installations should never select a feed antenna equipped with a polarisation rotation mechanism; rather the best procedure is to choose a feed with single polarity or dual polarity with two LNBs used on the dual polarity feed.

Cable and SMATV, unlike DTH installations, are "set and forget" installs; the dish is peaked on a single satellite (often using an azimuth over elevation or az/el mechanical dish moving technique rather than polar mount). With C1, PAS-2 and As2 services, you are dealing with linear polarisation and separate transmission services on each polarity. A dual polarity feed, known in the trade as an *orthomode* feed, is designed to separate each polarity to its own waveguide flange or output port. The LNB mounts directly to the flange using the supplied hardware (including the important weather sealing rubber gasket).

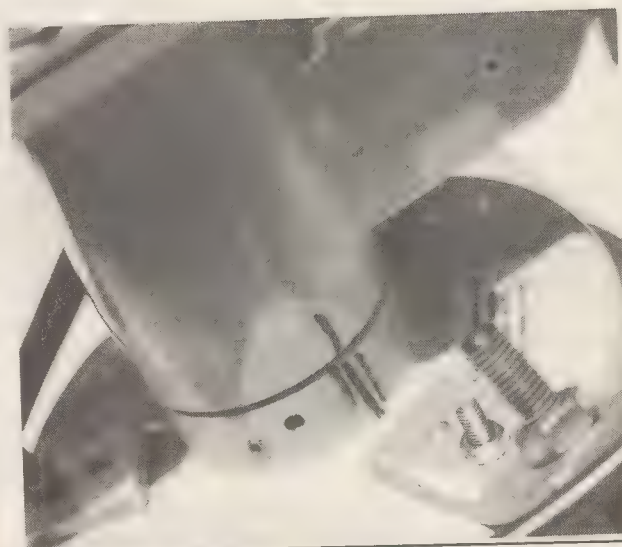
How can you be certain the feed is adjusted to peak performance for each linear polarity?

Orthomode feeds typically have a scalar ring at the front facing towards the dish, and a round waveguide cylinder at the back of the scalar ring portion. This cylinder mates with a separate feed portion using a collar arrangement and one or two typically Allen set screws to tighten the rear portion into position on the front scalar portion.

By loosening the Allen set screw(s) the rear portion will rotate inside the scalar ring cylinder/collar. It is this rotation adjustment which permits the installer to peak the feed for best performance.

When you rotate the rear portion within the collar, the vertical and horizontal waveguide flanges (with LNBs attached) turn in a circle. There are only two positions in a 360 degree (full circle) rotation where the feed probes in the LNBs are optimised for the respective linear vertical and linear horizontal positions.

A satellite due north (south) of you will have proper alignment when one probe points at either 3PM or 9PM and the opposite points at 6pm or 12 noon on an imaginary clock face inside of the scalar ring surface. For most installations PAS-2, As2 and C1 are not due north (or south) of you. This means the rear portion must be rotated in one direction or the other to find the



point where the probes in the LNBs align perfectly with the incoming linear signals. For satellites west of due north from your location, the whole front assembly basically twists counter clockwise by some amount. But how much for alignment?

Seemingly you could use a signal level meter, spectrum analyser or the Bit Error Rate on a digital signal to indicate when you have maximum signal through the designated horizontal LNB from a signal you know to be horizontally polarised. Unfortunately, this is not a suitable approach.

Peaking for maximum signal with polarisation alignment is an almost impossible task. Why? Because the LNB probe (the actual "antenna" in this system) responds very broadly to peak alignment; it is not uncommon to twist the rear collar as much as +/- 15 degrees in rotation and not see any substantive change in peak signal level.

So you peak for minimum. Here is a practical example:

1) On C1 find the strongest signal in your area from say the horizontal side. Do this with your signal level meter, spectrum analyser and your satellite receiver connected to the vertical side LNB.



2) Now rotate the rear portion in the collar until you have reduced the strongest horizontal side signal to its absolute (weakest) minimum level.

You will probably find that the satellite receiver tuned to the strong horizontal side signal is in the end your best indicator of minimum signal. The receiver plus TV set will show you when you have reduced the strong horizontal side signal to either pure noise (only snow on the screen) or to its weakest level for your installation. If HBO Asia is your strongest signal, you should be able to take it down to where all signs of signal are gone on the receiver and TV monitor screen.

It is important to select a strong side transponder to minimise which is not "opposed" (on the opposite polarity) by an equally strong signal. Why? Because as you rotate the rear portion of the feed you don't want the vertical side signal to come up and mix with the horizontal side signal you are trying to "null" (minimise). HBO at a horizontal IF of 1150, for example, should not be swamped by stronger vertical signals from CNN (vertical 1170) or AnTeve (vertical 1130).

When you minimise the HBO horizontal signal through the vertical side LNB, you are automatically peaked on vertical with that LNB and on horizontal with the opposite LNB. It is just that simple.

#### Peaking For Max Only

If you attempt to peak by reading only the maximum signal through the orthomode feed (through the horizontal side LNB for horizontal, the vertical side LNB for vertical), you run the real risk that while you may have maximum signal as indicated, you will not have maximum cross-pole null.

*Cross-pole null* is simply the adjustment of the feed to ensure that signals on the opposite polarity do not show up in the wrong LNB. If the feed is not cross-pole nulled (which is what we do when we minimise as described), some of the vertical side signal will end up in the horizontal LNB. This "trash" signal will then be amplified along with the desired polarity signals and when presented to the receiver frequency modulation "spikes" from the opposite polarity show up as sparklies in the desired polarity signal. It will look on a TV screen almost exactly like a weak (sparklie laden) signal looks. Only, the sparklies are not being caused by too little signal but rather by too much signal from the opposite polarity sneaking in through the wrong port on the orthomode feed (1).

As shown in the photos here, make marks on the orthomode feed collar to guide you where the cross pole null is best and then set the collar and tighten in the middle of this rotational window that includes the narrow region of rotation where the signal is minimum.

1/ DTH polarisation rotating feeds of course will have the identical problem if the feed is improperly rotated and set for each polarisation.

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# SatFACTS Pacific Ocean Region Orbit Watch: 15 May 1996

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Free-to-Air 40E to 96.5E	
RTPi	40E/1226
Rtr/Mart	40E/1475
ORTI	53.2E/ 1475
Ethiopia	57E/1220
Zee News	60E/961
ABN	62.9E/964
TV India	62.9E/986
WorldNet	66E/1135
Discovery	66E/984
Various	66E/1058
E TV	66E/1058
Discovery India	68.8/Pas4 Vt/1360
ESPN	68.8/Pas4 Vt/1290
Sony Ent.	68.8/Pas4 Vt/1239
MovieClb	68.8/Pas4 Hz/1117
CNN	68.8/Pas4 Vt/1061
TNT+	68.8/Pas4 Vt/1036
BBC World	68.8/Pas4 Vt/995
MTV & Jain TV	68.8/Pas4 Vt/966
shaded indicates	reported in Europe
TW6 Mos.	80E/1275
TV Viet.	80E/1275
MAPTV	80E/1475
TK Rossi	80E/1475
TVi India	85E/1271
Moscow 1	90E/1475
Moscow 2	90E/1275
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Moscow 1	96.5/1475
RTPi	100.5/Vt 1167
CCTV	100.5/Hz 1183
Moscow 1	103.5/ 1472
Star TV	113/Vt 970
CFI	113/Hz 990
MTV Asia	113/Hz 1030
TPI	113/Hz 1070
TV Indosair	113/Vt 1090
GMA	113/Hz 1120
ANteve	113/Vt 1130
CNNI	113/Vt 1170
SCTV	113/Hz 1190
ABN	113/Hz 1230
TV3	113/Vt 1250
ATVI	113/Hz 1270
TVRI	113/Hz 1310
RTM	113/Vt 1330
RCTI	113/Hz 1350
CNBC	113/Hz 1530
JCSAT (test)	128/Vt 1166
<b>Data Base</b> Left to right, name of service, satellite location, polarity, receiver IF	

Free-to-Air 130E to 180E	
Sun Music	130E/1225
IBC-13	130E/1265
AsiaNet	130E/1325
Sun Movie	130E/1425
RAJ-TV	130E/1475
Saudi TV	140E/1425
Moscow 1	140E/1475
Udaya	142E/1225
EMTV	142E/1265
EagleNet	142E/1325
JJAY	142E/1425
ATN +	142E/1475
Moscow 1	145E/1475
ANBC	169E/Vt 1038
NHK	169E/Hz 1115
CNN	169E/Hz 1183
CCTV (MPEG)	169E/Hz 1426
RFO	180E/1105
WorldNet	180E/1179

**S14 (Gorizont)**  
**96.5E (RHC)**  
+/- 3.2 deg.

Jain TV	1,275
Muslim TV	1,425
Orbita II	1,475

**S21 (Gorizont)**  
**103.2E (RHC)**  
+/- 2.2 deg.

(Various)	1,275
APNA	1,375
Orbita II	1,490

## Russian Polarisation

S (Stationar) series  
satellites are RHC (right  
hand circular); R series  
are LHC (left hand  
circular).

AsiaSat 2 100.5E	
Tests	1070Hz
DW Bouquet (DVB MPEG)	1150Hz 1/DW 2/TV5 3/RTVE
RTPi	1167Vt
CCTV	1183Hz
Reuters	1230Hz
STAR Japan (DVB MPEG)	1250Vt 1/"V" 2/BBC 3/VIVA 6/Sky
Data	1270Hz
Data	1290Vt
Tests	1330Vt
N-Band	1350Hz
APTV	1370Vt
News- crypt	1390Hz
STAR Asia (MPEG/ CA)	1410Vt 1/"V" 2/BBC 3/VIVA
STAR Asia (MPEG/ CA)	1450Vt A/D'Star B/D'Star C/D'Star
Tests	1490Vt

**R41 (Gorizont)**  
**130E (LHC)**  
+/- 0.7 deg.

Sun Music	1,225
IBC-13	1,265
AsiaNet	1,325
(tests)	1,375
Sun Movie	1,425
RAJ-TV	1,475

## Inclined Orbit

R, S series inclined  
orbits indicate ex-  
tremes (i.e. +/- 0.7)

Palapa C1 113E	
Star TV	970Vt
CFI	990Hz
Aust Sky (B-Mac)	1010Vt
MTV Asia	1030Hz
ESPN (B-Mac)	1050Vt
TPI	1070Hz
TV Indosair	1090Vt
	1100Hz
GMA (1/2 tr)	1120Hz
ANteve	1130Vt
HBO (B-Mac)	1150Hz
CNNI	1170Vt
SCTV	1190Hz
	1210Vt
ABN	1230Hz
TV3	1250Vt
ATVI	1270Hz
	1290Vt
TVRI	1310Hz
RTM	1330Vt
RCTI	1350Hz
(data)	1370V
TNT+ (B-Mac)	1390Hz
(data)	1410Vt
Discovery (B-Mac)	1430Hz
CNBC	1525Hz
(MPEG)	1700Hz

## C1 Coverage

Palapa C1 has very  
uneven coverage  
from PNG &  
Solomons south and  
east (see report  
SF#20). Hz / Vt  
transponders shaded  
strong in NZ.



S22	S27	I510	I604	I602	I704	Pas4	S13	S30	S6	In2C	S14	As2	S21	C1	Jcsat3	R41	S7	R42	S16	B3	B1	Pas2	I701	I703	I511
40E	53.2	57	60	62.9	66E	68.8	80	85	90	93.5	96.5	100.5	103	113	128	130	140	142.5	145	156	160	169	174	177	180

### OPTUS B3 156E (Ku only)

(B-Mac)	1425/Vt
Central ABC HACBSS	1393/Hz B-Mac
Vic. ETV	1361/Vt CryptV.
Imparja TV	1329/Hz B-Mac
(B-Mac)	1297/Vt
Net 9, Sky specials	1233/Vt B-Mac
Central ABC HACBSS	1201/Hz B-Mac
	1169/Vt
Galaxy	1137/Hz Iredito Mpeg 2
	1105/Vt
Galaxy	1073/Hz Iredito Mpeg 2
Golden West	1041/Vt
	1009/Hz
	977/Vt

### S7 (Gorizont) 140E (RHC) +/- 4.2 deg.

Saudi TV	1,425
Orbita 1	1,475

### S16 (Gorizont) 145E (RHC) +/- 3.7 deg.

Moscow 2	1,275
Moscow 1	1,475

Optus Ku Listing Credit to Garry Cratt  
of AV-COMM Pty Ltd.

### OPTUS B1 160E (Ku only)

Net 9, Sky feeds	1425/Vt B-Mac
Data	1402/Hz
QTV	1377/Hz B-Mac
NE ABC HACBSS	1370/Vt B-Mac
NE SBS HACBSS	1344/Vt B-Mac
SE SBS HACBSS	1339/Hz B-Mac
SE ABC HACBSS	1313/Hz B-Mac
Sky Channel	1296/Vt B-Mac
ABC Radio	1276/Hz (digital)
OmniCast	1270/Vt (FM/FM)
ABC feeds	1247/Hz Pal
Net 7	1244/Vt E-Pal
Net 9 feeds	1219/Vt Pal&Ntsc
	1214/Hz
Net 10	1182/Vt E-Pal
Net 9	1180/Hz E-Pal
Net 10 feeds	1155/Vt Pal
Net 7	1120/Vt E-Pal
Net 9 feeds	1091/Vt Pal
CAA air to ground	1009/Vt Nbfm
CAA air to ground	977/Vt Scpc(fm)

### PAS-2 169E (C - Ku)

Abn/Ctn/ Cctv/Nbc	1,426/Hz (SaMpeg)
Cmt/Cbs/ Bbc	1408/Vt (SaMpeg)
Discovery	1372/Hz B-Mac
MTV Asia	1346/Vt B-Mac
Occ.Video	1300/Hz
ESPN	1288/Vt B-Mac
Occ.Video	1249/Hz
TNT+	1218/Vt B-Mac
CNN+	1183/Hz (1/2 Tr)
FoxSports	1161/Vt (SaMpeg)
NHK	1115/Hz
(Occ.Video)	1110/Vt
Filipino Channel	1060/Hz (GI Mpeg)
ANBC	1038/Vt
(Data)	998/Hz
B'Imberg	985/Vt (SaMpeg)

### (PAS-2 Ku)

Service	RF Freq.
Pas2 test	12,337
Test card	12,413
Karaoke	12730/H

### R42 (Gorizont) 142.5E (LHC) +/- 0.7 deg.

Udaya	1,225
EMTV	1,265
EagleNet	1,325
For Sale	1,375
JJAY	1,425
ATN	1,465

### Intelsat 701 174E

Feeds	963
Feeds	984

### Intelsat 703 177E

AFRTS	973 B-Mac *
Feeds	980

\* uniquely left hand circular

### Intelsat 513 177W

Feeds	963
Feeds	984

### (513 Ku)

Service	RF Freq.
US Nets	10980Vt
NBC	11015Vt
Feeds	10510Vt

### Ku Services

Intelsat Ku band services shown here are boresighted to Japan and nearby Asia, have not been reported south of equator. At boresight, signals of <2m levels.

### Intelsat 511 180E(W)

TVNZ	964/NTL Mpeg
TVNZ	972/NTL Mpeg
TVNZ	980/NTL Mpeg
TVNZ	988/NTL Mpeg
Aust 9	1,021 *
(data)	1,054
Canal +	1,054 **
(data)	1,092
RFO Tahiti	1,105
(vacant)	1,137
World-net	1,179
CBS/e	1,223
Keystone	1,256
NBC/e	1,277
Mpeg tests	1,310
Mpeg tests	1,325
Mpeg	1,388
Keystone	1,432

\* RHC & LHC  
\*\* LHC only  
e/ encryption

### (511 Ku)

Service	RF Freq.
CBS	11480Hz
CNNI	11510Hz

### UPCOMING SATELLITE LAUNCHES

May 17/Palapa C2M to 150.5E for 'tests'.  
Before June/ 3rd Russian Express to 95E.  
October/ I801 to 174E (with 701 at 174 moving to 180E).  
December/ MPSC (Philippines) to 144E.  
January('97)/ I1803 to 177E.



# WITH THE OBSERVERS

## AT PRESS DEADLINE

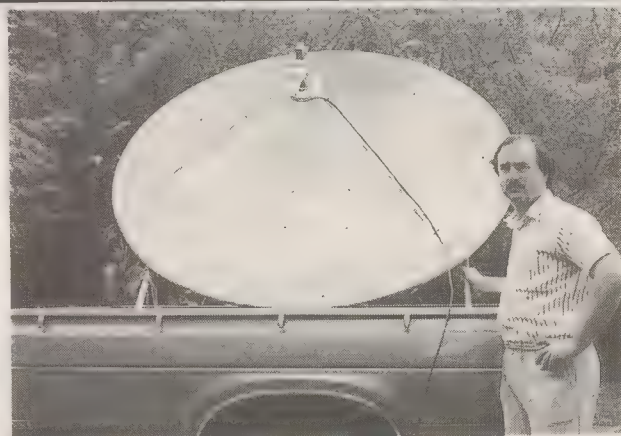
C1 fine tuning continues. Steffen Holzt, New Caledonia, reports ESPN has joined Discovery, TNT and HBO as "clean" there after several days of random fluctuations. The worst 2 at press deadline for Steffen: Antevé and Star TV which barely rate a "P1" on the reporting code he originated.

Palapa C1 fine tuning has continued up to press time; Steffen Holzt (New Caledonia) reports an abrupt 3dB increase of the TNT signal at his location May 6th, after two weeks of gradual decline. His spectrum analyser indicated none of the other (C1 horizontal) transponders varied in level over the same period of time.

Our co-ordinated effort to measure C1 signals over the full C1 coverage area on Sunday April 28th was successful although we anticipate more than doubling the initial 71 reports received as this issue is closing for publication. We'll have a full report in SF#22.

The data strongly suggests (as also indicated in our extensive report in SF#21) that the C1 "extended" vertical beam pattern is unfortunately skewed favouring a line from approximately the Marshall Islands (7N, 171E) south-west towards Melbourne (37S, 144E). Even within that zone (centred near Brisbane) signal levels average 3-5dB lower in level than the best horizontal extended beam transponders in their favoured region. The two regions "cross over" along the eastern Australia coast and Townsville is not a bad place to live for C1 reception.

Of special interest are Measurement Sunday reports from **Hiroyuki Nagase** who co-ordinated observers in Japan. We summarise their 3m dish results below using Okinawa (closest to the predicted C1 footprint region) and Yokohama (well north-east of the predicted region except on CNBC's unique



Although NZ's Telsat Communications promised to show off a fibreglass line of dishes during SPRSCS '96 the antennas were not quite ready. Now they are and Steve Jepson is roaming the countryside with this 1.8m truck mounted version testing on PAS-2.

Asian beam). ABN certainly did not do itself any favours by in Japan by moving from 3920/Hz to 4040/Hz (Measurement Sunday was 3 days prior to the move). The final chapter for C1 has not yet been written. Our thanks to **Harald Steiner** in Tokyo for arranging this effort.

Service	Frequency	Polarity	Yokoham.	Okinawa
CNBC	3,620	Hz	P4	P5
Discovery	3,720	Hz	P2	P4
RCTI	3,800	Hz	None	P3
TVRI	3,840	Hz	None	P4
ATVI	3,880	Hz	None	P3
ABN (*)	3,920	Hz	P1	P4
SCTI	3,960	Hz	P1	P4
HBO Asia	4,000	Hz	P1	P4
GMA (*)	4,030	Hz	None	P3
TPI	4,080	Hz	None	P4
MTV Asia	4,120	Hz	None	P3

Service	Frequency	Polarity	Yokoham.	Okinawa
CFI	4,160	Hz	P2	P4
RTM-1	3,820	Vt	P3	P4
TV3	3,900	Vt	P3	P4
TNT +	3,940	Vt	P1	P4
CNNI	3,980	Vt	P2	P4
An-Teve	4,020	Vt	P2	P4
Indosair	4,060	Vt	P2	P4
ESPN	4,100	Vt	P1	P4
Brunei	4,140	Vt	P2	P4
Star TV	4,180	Vt	P2	P4

Japanese measurements with 3m dishes, Palcom SL-4500RP

**WITH THE OBSERVERS:** Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. Photos of yourself, your equipment or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for June 15th issue: June 3 by mail (use form appearing page 30), or 5PM

NZT June 5th if by fax to 64-9-406-1083.



## Good Bye Old Friend



Since 1990 a 5m aluminium and steel petalised dish has provided the editor with hundreds of hours of enjoyable satellite surfing. But times change and with antenna space at a premium, we offered the dish to the first person who showed up to haul it away. Will-be cable operator Alan Meharry of Te Aroha, NZ won the race arriving with family and a set of tools. By sundown, the dish was nearly ready to pack atop his car and start the 400km trip to its new cable system home. Yes, it is possible to dismantle a 5m dish, single handed, and haul it away atop a mid-sized family car!



PanAmSat has signed contracts with Space Systems/Loral for construction of PAS-7 (14 C-band, 30 Ku band at 68.5E,

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**ECHOSTAR RECEIVERS**  
**CHAPARRAL FEEDHORNS**

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UPGRADE: With KTI 3.7m dish - \$1,950 + gst and freight!

UPGRADE: Single axis motorised kit \$499 + gst and freight

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Address: \_\_\_\_\_

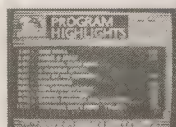
Pcode: \_\_\_\_\_

Phone: ( ) \_\_\_\_\_

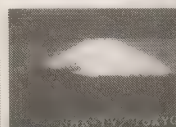


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### THE EXCITEMENT OF WORLD-WIDE SATELLITE TELEVISION!



Prima New Springs - MTV  
carries major Australian sports



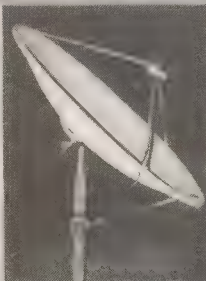
NHK Tokyo is primarily  
Japanese with some English



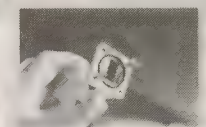
CMT - Country Music Television  
is 24 hour musical entertainment



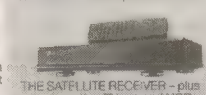
Asian TV Network



THE DISH - from 2 to 3 metres  
in size mounted on pole in ground



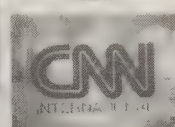
THE LNB and feed antenna - the  
outdoor electronics portion of dish



THE SATELLITE RECEIVER - plus  
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German - English news  
features



CNN INTERNATIONAL - 24 hour  
news and features from USA



India's Tamil Language TV - 24  
hours daily from Madras



Chinese TV Network - Mandarin

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Address \_\_\_\_\_

Town \_\_\_\_\_

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Expires \_\_\_\_\_

Name as appears on Card \_\_\_\_\_

From: SPACE, PO Box 30, Mangonui, Far North  
New Zealand

SatFACTS May 1996 • page 28

### TRANSPONDING TIME FOR SALE

Do you know

- a message
- tv programme
- advertising

you wish to broadcast to the  
world of -

India.

Best foot forward: Subic Bay Satellite Systems has been advertising using on screen roll text availability of 142.5E TR8 (3775/1375IF) for lease or short term rent. Fee is US\$600 per 30 minutes, short term; you provide a tape (any format) to their Subic Bay uplink, they do the rest. Telephone Vince Waterson 63-47-252-6815, fax 63-47-252-3710.

late 1997 launch on Ariane) and PAS-8 (24C and 24Ku at 166E, early 1998 launch via Proton). This is the first official PanAmSat announcement concerning the expected location of PAS-8.

Do not be surprised if EM TV "tests" a Videocrypt scrambling system from time to time; also, do not panic. The station is under considerable pressure from Pacific telecasters to scramble, especially feeds originating outside of their own studios. They do not deny that eventually they will have to adopt some form of signal encryption, but it is unlikely to happen (other than occasional testing) before they have decided upon a permanent satellite (142.5E is interim) and MPEG transmission system.

Western Australians should check PAS-4 for signs of a colour bar test pattern on 12,410 (audio 6.6) and 12,332 MHz (audio 6.8). Those within range of PAS-2 should check 12,413 and 12,337 for tests; yes there is a PAS-Ku pattern at work here.

Shane Wilson (Mareeba, Qld) must be close to the beam crossing point for C1; he finds all transponders P5 on wide IF using a 3.7m with exception of CNBC's operation at IF1530 (on the Asian extended beam for C1). During the Measurement Sunday tests, Shane found all C1 signals P5 on a 2.4m dish as well (except CNBC) whereas B2P at his location produced only P2/P3 signals from the same dish. "Most improved" are TV1, TV3, GMA, SCTV, MTV and TVRI.

GMA CHANNEL 7  
EDSA TOC MLA

Most Improved in NZ: GMA Philippines in full hot transponder format clearly benefits from C1.



## C2M ♦ PACE/SA/NTL DVB COMPLIANT MPEG RECEIVERS!

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As2 ... C1 ... next up is C2M. By the end of 1996, an additional four to six Pacific & Asia satellites. And programming - WOW!!! 50, 60, perhaps 100 channels total by April 1997. And of course there is the continuing saga of analogue's migration to DVB Compliant MPEG. Welcome to the future - here today and SatFACTS is taking you there monthly.

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## OBSERVER REPORTING FORM - Due June 4, 1996

- **New programming** sources seen since May 1st: \_\_\_\_\_
- **Changes** (signal level, transponder, programming content) in pre-existing programming sources since May 1st: \_\_\_\_\_
- **Other** (including changes in your receiving system): \_\_\_\_\_

**Note:** Please use P1-5 code when describing reception quality and receiver IF or RF settings.

Your name \_\_\_\_\_  
Town/City \_\_\_\_\_  
Make/Size dish \_\_\_\_\_ LNB \_\_\_\_\_ Receiver \_\_\_\_\_

**Mail:** SatFACTS, PO Box 330, Mangonui, Far North, New Zealand. **Fax:** 64-9-406-1083

### THE HOLZT "P-Code" SIGNAL GRADING & REPORTING SYSTEM (Clip this card and post near your satellite receiving system)

Steffen Holzt of New Caledonia is credited with the now universal reception quality grading system used by observers throughout Asia and the Pacific. We encourage you to use this numbering system when reporting on reception results.

- P5 • Noisefree (no sparklies or tearing) on full bandwidth receiver (typically 27 MHz wide)
  - P5D • (MPEG) No checker board patterning, no audio drop outs
- P4 • With bandwidth reduced below 27 MHz, no sparklies or tearing
  - P4D • Occasional checker boarding and/or random audio drop out
- P3 • With bandwidth reduced, some sparklies present but no tearing
  - P3D • Frequent checker boarding and/or audio drop out
- P2 • With bandwidth reduced, picture watchable with sparklies and tearing (edges jittery)
  - P2D • Picture appears only occasionally, is mostly gone because of high BER (bit error rate)
- P1 • **Must be an enthusiast to watch!**
  - P1D • Signal present on spectrum analyser, too weak to lock my receiver

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